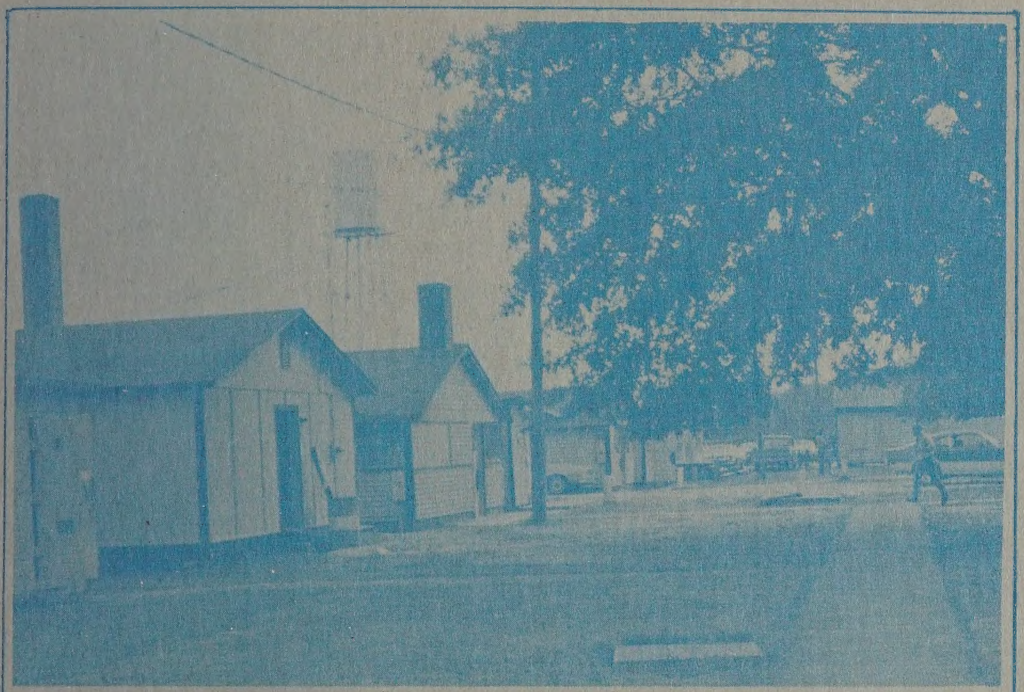
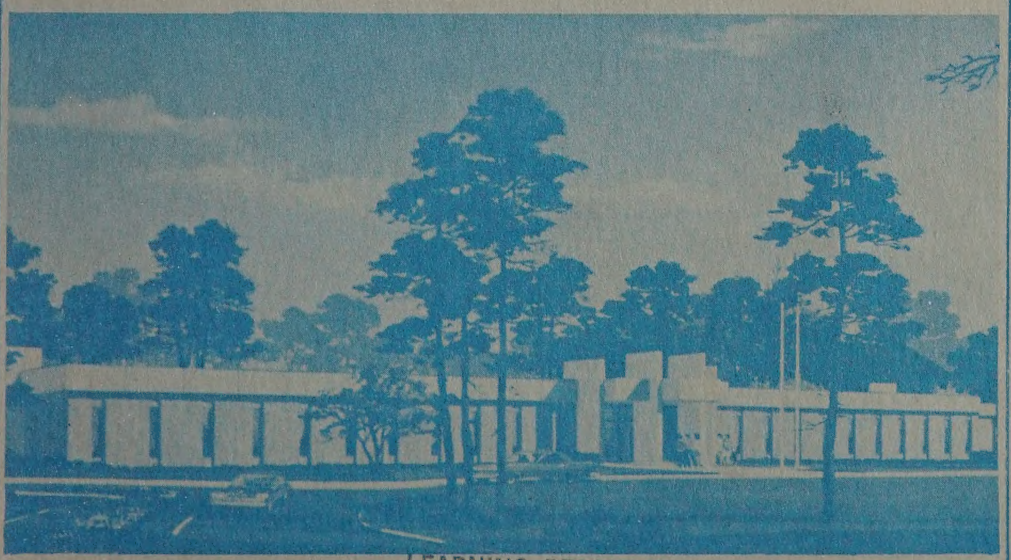
RCCC History



74

ROANOKE-CHOWAN TECHNICAL INSTITUTE

GENERAL CATALOG



76

LEARNING RESOURCES CENTER
ROANOKE-CHOWAN COMMUNITY COLLEGE
ROUTE 2, BOX 46-A

Roanoke-Chowan Technical Institute

A MEMBER OF THE SYSTEM OF NORTH CAROLINA
COMMUNITY COLLEGES AND TECHNICAL INSTITUTES

GENERAL CATALOG
1974-76

Route 2, Box 46-A
Ahoskie, North Carolina 27910
Telephone: 332-4168, 332-4169

Roanoke-Chowan Technical Institute is an equal educational opportunity institution, and, in keeping with this policy, the Institute makes no distinction in the admission of students, or in any other of its activities, on the basis of race, color, sex, creed, or national origin.

Whom To Ask

Absences	Student Development Services
Admission	Student Development Services
Books and Periodicals	Learning Resources Center
Building Maintenance	Business Office
Counseling	Student Development Services
Course Offerings	Student Development Services
Drop-Add	Student Development Services
Evening Courses	Continuing Education
Financial Aid	Student Development Services
Finances	Business Office
First Aid	Student Development Services
Grades — End of Quarter Reports	Student Development Services
Graduation	Student Development Services
High School Equivalency Program	Learning Resources Center
Institute Regulations	Student Development Services
Job Placement	Student Development Services
Lost and Found	Student Development Services
Purchase of Books and Supplies	Business Office
Recreational Equipment	Student Development Services
Student Activities	Student Development Services
Transcripts	Student Development Services
Veterans Affairs	Student Development Services
Vocational Rehabilitation	Student Development Services
Withdrawals	Student Development Services
Parking	Student Development Services
Change of Grade	Registrar

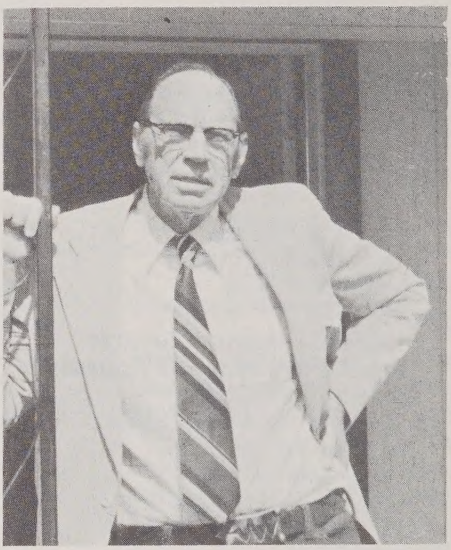
Note

Efforts will be made to keep changes in this catalog to a minimum, but changes in policy by the General Assembly, State Board of Education, the Department of Community Colleges, or the Board of Trustees may make some alterations in curriculums, fees, etc. necessary.

Table of Contents

	PAGE
Academic Calendar	5
Board of Trustees	8
Hertford County Commissioners	9
State Board of Education	9
Faculty and Staff	10
Educational Concept	12
The General Information Division	13
History	15
Purpose & Philosophy	17
Admissions Information	19
Financial Information	21
Financial Aid	21
Student Development Services	23
General Information and Regulations	25
Student Activities	25
The Learning Resources Center	27
The Learning Laboratory	29
High School Equivalency	29
Developmental Studies	31
Reading Laboratory	32
Library	32
Multi-Media Department	33
The Technical Division	34
Architectural Drafing Technology	39
Business Administration	41
Executive Secretarial	43
General Office Technology	45
Instrumentation Technology	48
Technical Course Descriptions	61
The Vocational Division	65
Auto Mechanics	66
Cosmetology	68
Electronic Servicing	70
Light Construction	71
Nurses' Assistant	72
Practical Nurse Education	74
Welding	74
Programs at Odom Correctional Institute	76
Cabinetmaking	76
Food Preparation	78
Electrical Installation and Maintenance	79
Mechanical Drafting	79
Vocational Course Descriptions	81
The Adult and Continuing Education Division	82
Adult Basic Education	107
Adult Education — High School Courses	109
Cultural, Creative, and General Interest Courses	109
Training Services to Business and Industry	109
Fire Service Training	109
Hospitality and Tourism Education	110
Management Development Training	110
New Industry Training	111
	111

A Message From The President



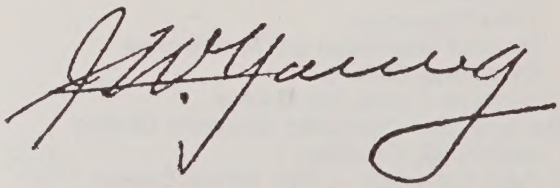
To the people of the Roanoke-Chowan area:

There is a place for you at Roanoke-Chowan Technical Institute. Our doors are always open to all who desire to learn new skills, to improve one's ability to earn a living, and to enjoy living.

Modern day industry requires trained personnel. The skilled labor market grows at an incredible pace, while the demand for unskilled, untrained men and women continues to evaporate.

Roanoke-Chowan Technical Institute offers a variety of programs geared to assist you in developing your full potential. We offer occupationally oriented programs for those who wish to enter employment at the technical level. In addition, short courses are available for those who desire to upgrade skills related to their present employment.

Our extension programs are designed to meet the many and varied needs of the entire community. Whether your interest be in securing a high school diploma, improving old skills, or developing new cultural interests; you will find Roanoke-Chowan Technical Institute receptive and sensitive to your needs.



Jack Young, President
Roanoke-Chowan Technical Institute

Academic Calendar

SPRING QUARTER 1974

Registration	March 6
Classes begin	March 7
Classes end for holiday	April 11
Holiday — Easter	
Classes begin after holiday	April 16
Last day of classes	May 24

SUMMER QUARTER 1974

Registration	June 3
Classes begin	June 4
Classes end for holiday	July 3
Holiday — Independence day	
Classes begin after holiday	July 5
Last day of classes	August 20
Graduation	August 25

FALL QUARTER 1974

Registration	September 3
Student Orientation	September 4
Classes begin	September 5
Last day of classes	November 20

WINTER QUARTER 1974-75

Registration	November 25
Classes begin	November 26
Classes end for holiday	November 27
Holiday — Thanksgiving	
Classes begin after holiday	December 2
Classes end for holiday	December 20
Holidays — Christmas and New Years	
Classes begin after holidays	January 2
Last day of classes	February 24

SPRING QUARTER 1975

Registration	March 3
Classes begin	March 4
Classes end for holiday	March 27
Holiday — Easter	
Classes begin after holiday	April 1
Last day of classes	May 21

SUMMER QUARTER 1975

Registration	June 2
Classes begin	June 3
Classes end for holiday	July 3
Holiday — Independence Day	
Classes begin after holiday	July 7
Last day of classes	August 19
Graduation	August 24

FALL QUARTER 1975

Registration	September 2
Orientation	September 3
Classes begin	September 4
Last day of classes	November 19

WINTER QUARTER 1975-76

Registration	November 24
Classes begin	November 25
Classes end for holiday	November 26
Holiday — Thanksgiving	
Classes begin after holiday	December 1
Classes end for holiday	December 19
Holiday — Christmas and New Years	
Classes begin after holiday	January 5
Last day of classes	February 25

SPRING QUARTER 1976

Registration	March 8
Classes begin	March 9
Classes end for holiday	April 15
Holiday — Easter	
Classes begin after holiday	April 20
Last day of classes	May 26

SUMMER QUARTER 1976

Registration	June 7
Classes begin	June 8
Classes end for holiday	July 2
Holiday-Independence Day	
Classes begin after holiday	July 6
Last day of classes	August 24
Graduation	August 29

Board of Trustees

R. H. Jernigan, Jr., Chairman
George Gibbs, Vice-Chairman

Appointment by Commissioners of Hertford County

	Expiration of Term
Hunter Sharp, Jr.	June 30, 1979
C. Harold Moore	June 30, 1977
H. C. Freeland	June 30, 1975
William D. Edwards	June 30, 1981

Appointment by The Hertford County Board of Education

Senator J.J. Harrington	June 30, 1979
J.L. Faulcon	June 30, 1977
George Gibbs	June 30, 1975
Shirley S. Pierce	June 30, 1981

Appointment by the Governor

R.H. Jernigan, Jr.	June 30, 1979
W. Hayes Godwin	June 30, 1977
Reverend A.M. Williams	June 30, 1975
O.C. Freeman	June 30, 1981

The Board of Trustees functions pursuant to the Statutes of North Carolina and the United States, and administrative policies and regulations adopted by the State Board of Education and the Department of Community Colleges.

Roanoke-Chowan Technical Institute
Is An Equal Opportunity Employer.

Hertford County Board of Commissioners

W.T. Modlin, Chairman
Fred Jones
Earl Lewis
Hunter Sharp, Jr.
R. G. Whitley

North Carolina State Board of Education

W. D. Herring, Chairman
J. A. Pritchett, Vice Chairman
A.C. Davis, Controller
James B. Hunt, Jr., Lieutenant Governor
Edwin Gill, State Treasurer

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R.R. Manz
Earl H. Oxendine

Prezell R. Robinson
John M. Reynolds
Mrs. Mildred S. Strickland
Mrs. Evelyn S. Tyler

Dr. Ben E. Fountain, President
State Department of Community Colleges and Technical Institutes

Personnel

Administrative Staff

J. W. Young	President
J. W. Sawyer	Dean of Education
Donald Hessenflow	Dean, Student and Institutional Development Services
Julian P. Freeman	Director, Continuing Education
To Be Filled	Evening Director
Kenneth Bryant	Extension Field Representative
William H. Harrell	Director, Special Programs
Cleveland Blount	Vocational Counselor
Mrs. Anne H. Tucker	Registrar-Admissions-Financial Aid Officer
Don G. Daniels	Business Manager
Robert E. Sessoms	Associate Dean and Director Student Activities
James E. Weibley	Administrative Assistant, Electronics Chairman
Miss Margaret Burgwyn	Director of Counseling and Testing

Clerical and Secretarial Staff

Mrs. Frances Baker	Bookkeeper
Miss Julia Outland	Assistant Bookkeeper
Miss Geraldine Harris	Secretary-Clerk
Mrs. Jean Parker	Secretary-Continuing Education
Mrs. Julie R. Hill	Secretary-President
Miss Symera C. Gatling	Secretary-Adult Education
Miss Ruth D. Watford	Clerk-Library
Mrs. Patsy L. Boswell	Secretary-Educational Development Officer
Mrs. Clara Moore	Secretary-Faculty
Mrs. Nora Jordan	Secretary-Student Development Services
Miss Gloria Winborne	Receptionist

Custodial Staff

Chester W. Rogerson	Maintenance Supervisor and Property Officer
John Holley	Custodian
Thurman Taylor	Custodian
Mrs. Armetha Barnes	Custodian
Mrs. Annie Taylor	Food Service

Instructional Staff

Joseph Barrett	Auto Mechanics
John H. Bowen	Mechanical Drafting (Odom Prison)
Mrs. Ruth B. Branch	Cosmetology
Miss Patsy A. Cherry	Business
Francis L. Cordrey	Welding
Tony DeBerry	Welding
Bill Fox	Business
O. Chris Freeman	Auto Mechanics
Mrs. Bettie B. Hall	Business
S. D. Hedspeth, Jr.	Electrical Installation (Odom Prison)
James W. Hoggard	Air Conditioning, Heating, and Refrigeration
John D. Horton	Business
Alan Johnston	Related Subjects (Odom Prison)
Harry Keene	Auto Mechanics
Fred L. Kistler, Jr.	Electronic Servicing
Edward Lanier	Cabinetmaking (Odom Prison)
Mrs. Katie Lee	Science
Mrs. Julia H. Lilly	Cosmetology
Glynn C. McFadden	Architectural Drafting Technology
Miss Cheryl Martin	Reading
Mrs. Carolyn B. Mitchell	English
Calvin Owens	Mathematics
Mrs. Frances Parker	Practical Nurse Education
Mrs. Dorothy M. Powell	English
Billy Rose	Food Preparation (Odom Prison)
Mrs. Carolyn F. Soomsawasdi	Practical Nurse Education
Charles G. Tuders	Electronic Servicing
Miss Carolyn E. Tyson	Business
W. H. Vickers	Instrumentation Technology
Larkin Walker	Instrumentation Technology
Dederick White	Light Construction

Learning Resource Center Staff

Mrs. Elizabeth S. Bowser	Librarian
Mrs. Margaret Lefler	Librarian, Assistant
Miss Johnna L. Everett	Educational Development Officer
Mrs. Virginia Jones	Learning Lab Coordinator
Mrs. Linda B. Jenkins	Assistant Learning Lab Coordinator
Mrs. Shirley B. Smith	Assistant Learning Lab Coordinator
Mrs. Anne Caulkins	Learning Lab and Library Assistant
J. Tom Hedspeth	Media Specialist

Manpower Development Training Act Staff

Thomas C. Culbreth	Instructor
Mrs. Diane Kimbrough	Instructor
Miss Mary Parker	Secretary

Educational Concept

Roanoke-Chowan Technical Institute wants to serve all the people of the Roanoke-Chowan area by offering quality education to meet and satisfy the needs of each citizen, from the high school drop-out to the retired person.

The Institute offers a core of general education courses and activities to broaden the student's awareness of his responsibility as a citizen of his community, state, nation, and world. Vocational and technical training programs are available for career-minded individuals. Continuing education programs, based on regional interests and needs, are provided; and Roanoke-Chowan Tech offers advisement, counseling, guidance, and placement programs to better serve all its students.

As a member of the North Carolina Community College system, Roanoke-Chowan Technical Institute upholds the philosophy of total education and the "open door" policy, offering help to every student who seeks it, provided that the student can benefit from what is offered, and provided that the student is willing to try.

In the words of State Board of Education Chairman Dr. W. Dallas Herring, ". . . the doors to the institutions in North Carolina's System of Community Colleges must never be closed to anyone of suitable age who can learn what they teach. If their (the people's) needs are for cultural advancement, intellectual growth, or civic understanding, then we will simply make available to them the wisdom of the ages and the enlightenment of our own times and help them on to maturity."

Individaulized instructional methods are being developed at Roanoke-Chowan Technical Institute. These methods are based on behavioral objectives and would allow the student to know what is expected of him before experiencing lecture material, tape scripts, or other learning activities.

The Institute is developing this approach because it believes that behavioral instruction offers the student a way of learning that he can use for the rest of his life. It is an adult approach because the person would have his objectives clearly defined and outlined in order of importance, and would be allowed to build upon areas in which he has experienced success.

Throughout its brief history, Roanoke-Chowan Technical Institute has provided quality education at moderate cost to residents of the Roanoke-Chowan area. The Institute has also provided economic return to the communities in this area...through state and Federal funds flowing into the communities... the staff's payroll...industrial employment. The Institute provides essential educational programs to members of the communities so that greater economic return can be realized by them, their families, and the communities.

General Information

History

Superintendent of Hertford County Schools R. P. Martin and the Hertford County Board of Education began formulating plans for Roanoke-Chowan Technical Institute in 1960. In 1963 and 1965 requests were made through the State Board of Education and the General Assembly for appropriations to establish a technical institute in the Roanoke-Chowan area. In 1967 under the leadership of Representative Roberts H. Jernigan, Jr. and with the support of Senator J.J. "Monk" Harrington and Representative Emmett Burden, the General Assembly appropriated the funds to establish Roanoke-Chowan Technical Institute as an extension unit in Hertford County of the Department of Community Colleges.

The Hertford County Board of Education and the State Board of Education signed an agreement establishing the Institute to serve the people of the Roanoke-Chowan area, including Bertie, Gates and Northampton Counties. The Hertford County Board of Education and Board of Commissioners jointly appointed a Board of Trustees for the school.

On August 22, 1967, J.W. "Jack" Young, former teacher and principal in the Hertford County system was elected president of Roanoke-Chowan Technical Institute.

A 39-acre site near the center of Hertford County was purchased by the county Board of Education in August 1967. The site, near the Village of Union, was formerly a State Correctional Institution. Located on the site were one brick security building and five other wood frame structures. The land outside the prison compound had been used for farming to supply the inmates with produce.

In September 1967, work was begun to renovate and convert the buildings for school use. Offices were provided, and the president and a small staff began work.

Surveys were made for the occupational needs of the Roanoke-Chowan area. Curriculum committees were appointed and extension classes were started in the Fall of 1967.

Renovation of buildings continued and necessary equipment and supplies were requisitioned to provide needed teaching tools for occupational instruction. Almost immediately, the people of the Roanoke-Chowan area became interested in the Institution, and what it offered, and would offer in the future. Off-campus classes were started in store buildings, public schools, community centers and churches.

Roanoke-Chowan Technical Institute became a fully chartered state institution on July 1, 1971. The Board of Trustees was increased to twelve members to operate as a corporate controlling body.

In July of 1972 the Institute began Phase I of facility and campus development. Nearly $2 million has been granted in Federal, state and local funds. Two buildings have been designed and about one-third of the campus is designated to be developed. Construction on this project began early in 1974.

Roanoke-Chowan Technical Institute enjoys the support of the 82,000 people who live within a 25-mile radius of the school. This area encompasses the whole of Hertford County and four-fifths of the land area of adjacent Bertie, Gates and Northampton Counties.

Purpose and Philosophy

The purposes of Roanoke-Chowan Technical Institute are to provide specialized occupational education to fill the employment needs in our society, to provide basic education necessary for growth in occupational fields or in continued education, and to provide the basic human relations training necessary for people to develop as citizens and workers.

The major objectives of Roanoke-Chowan Technical Institute are as follows:

1. To provide expanded educational opportunities for young people and adults who would not otherwise continue their education.

2. To provide relatively inexpensive nearby educational opportunities for high school graduates, non-high school graduates, and adults.

3. To provide a high school equivalency program for non-high school graduates.

4. To provide technical programs of collegiate level leading to the Associate in Applied Science Degree, preparing students for jobs in industry, business, government, and service occupations as the need exists within the community.

5. To provide vocational programs preparing students for jobs requiring varying levels of ability and skills.

6. To provide retraining and upgrading courses and programs to facilitate adjustment to, or re-employment or advancement in, a work environment that is undergoing rapid technological changes.

7. To provide courses that will meet the general adult and community service needs of the people of the area.

8. To provide a program of guidance and counseling designed to help all students understand themselves better and to be able to make wiser choices of vocations, avocations, and jobs.

9. To review the Institute's purpose and objectives in order to offer an education to meet the needs of the citizens within resources of the Institution, community, and state.

Programs of Study

Roanoke-Chowan Technical Institute offers the following programs of study:

ASSOCIATE IN APPLIED SCIENCE DEGREE PROGRAMS

Architectural Drafting Technology
Business Administration
Executive Secretarial
General Office Technology
Instrumentation Technology

DIPLOMA

Air Conditioning, Heating and Refrigeration
Auto Mechanics
Cosmetology
Electronic Servicing
Light Construction
Welding
Practical Nurse Education

SPECIAL COURSES AT ODOM CORRECTIONAL INSTITUTE — Certificate

Food Preparation
Carpentry and Cabinetmaking
Mechanical Drafting
Electrical Installation and Maintenance

CERTIFICATE

Nurses' Assistant
Welding

ADULT EDUCATION AND EXTENSION PROGRAMS

Adult Basic Education (Grades 1-12)
Learning Laboratory
Developmental Studies
Cultural, Creative, and General Interest Courses
Training Services to Business and Industry
Supervisory Development Training
Fire Service Training
New Industry Training

Admission Information

Statement Of Policy

Roanoke-Chowan Technical Institute, as a member of the North Carolina Community Colleges and Technical Institutes, adheres to an "open door" policy of admissions. In order to successfully implement this "open door" policy, Roanoke-Chowan Tech utilizes guidance services and an admissions committee. It is the intent of the Institute to offer help to every student who seeks it, provided that the student can benefit from what is offered, and provided that the student is willing to try. The guidance services assist the student in making sound educational choices and in assuring reasonable potential of success in a particular curriculum program.

Admissions Procedures

1. Application

The applicant must submit an application for admission to Roanoke-Chowan Technical Institute. The personal data section and medical checklist section of the application have to be completed as early as possible prior to entering school.

2. Transcripts

A. Students should request their high school to forward a transcript to Roanoke-Chowan Tech. A supplementary transcript of the final semester's work should be submitted by the school after high school graduation. Applicants with a high school equivalency certificate or a diploma should submit a copy of the certificate or diploma in lieu of a transcript.

B. Students transferring from other post-secondary education institutions should request official transcripts of all work completed to be submitted to Roanoke-Chowan Tech. Transfer students should request an appointment with the Registrar to determine and grant transfer credit.

3. Pre-Admission Counseling

Students planning to enroll at Roanoke-Chowan Tech are urged to schedule an appointment with a member of the counseling staff prior to entering school. This pre-admission counseling covers academic and occupational objectives, personal-social information and a general overview of the student's record.

4. Initial Placement Test

Roanoke-Chowan Tech requires each student to take a battery of tests prior to or during the first week of school to determine placement and counseling; however, the Admission Officer may waiver the battery of tests upon evidence of satisfactory scores on other standardized tests or educational achievement.

5. Re-Admission Procedure

Students applying for re-admission to Roanoke-Chowan Tech must adhere to the following procedure. If the termination was voluntary, the student must submit a re-admission form to the Admissions Officer. In the case of involuntary termination, the student must submit a re-admission form to the Admissions Officer and be re-admitted on the recommendation of the Admissions Committee.

6. Specific Requirements for Admission to Vocational Programs

A. Students must be 18 years or older and must be able to benefit from the available curriculum programs.

B. Students 16 to 18 years of age may be admitted to Roanoke-Chowan Tech providing a letter of release is obtained from the public school system.

C. Applicants for Cosmetology and Nursing must complete a health certificate signed by a physician as part of the application process.

D. Students applying for the LPN Program must be interviewed by a Nursing instructor and the Admissions Officer and be a high school graduate or equivalent.

E. The LPN Program requires pre-admission tests for entrance.

7. Specific Requirements for Admission to Technical Programs

A. Students must be high school graduate or have a high school equivalency certificate or diploma.

B. Students must be able to benefit from the available curriculum programs.

8. Admission to the High School Equivalency Program and Admission for Special Students

A. The applicant must meet the specific requirements for admission to vocational programs.

9. Admission to Continuing Education Programs

A. Requirements for Extension and ABE programs are determined on the basis of each class that is offered.

B. Any adult, 18 years of age or older who is not enrolled in public school, is eligible to enroll.

C. Students 16 to 18 years of age may be admitted to Roanoke-Chowan Tech providing a letter of release is obtained from the public school system.

10. Provisional Admissions

A. Students may be enrolled on a provisional basis until all admission requirements are met. All admission requirements must be completed within a time frame of one quarter or equivalent quarter credit hours. Those students not completing the admission requirements will be suspended from classes until all requirements are met.

Roanoke-Chowan Technical Institute maintains the right to refuse admittance to students if the admissions committee has evidence to believe that the student may disrupt the educational process at the Institute. The school also reserves the right to recommend placement in programs other than the first choice of the applicant. Roanoke-Chowan Tech may require a development program or developmental courses prior to entrance in a specific program. (Developmental courses are designed to develop basic skills in reading, math, English and other needed areas. For those courses students do not receive credit toward graduation.)

Information Regarding Student Residency Classification

"To qualify for in-state tuition a legal resident must have maintained his domicile in North Carolina for at least the 12 months immediately prior to his classification as a resident for tuition purposes. In order to be eligible for such classification, the individual must establish that his or her presence in the State during such twelve-month period was for purposes of maintaining a bona fide domicile rather than for purposes of mere temporary residence incident to enrollment in an institution of higher education; further, (1) if the parents (or court-appointed legal guardian) of the individual seeking resident classification are (is) bona fide domiciliaries of this State, this fact shall be prima facie evidence of domiciliary status of the individual applicant and (2) if such parents or guardian are not bona fide domiciliaries of this State, this fact shall be prima facie evidence of non-domiciliary status of the individual." G. S. 116-143.1(b)

Regulations concerning the classification of students by residence for purposes of applicable tuition differentials, are set forth in detail in A MANUAL TO ASSIST THE PUBLIC HIGHER EDUCATION INSTITUTIONS OF NORTH CAROLINA IN THE MATTER OF STUDENT RESIDENCE CLASSIFICATION FOR TUITION PURPOSES. Each enrolled student is responsible for knowing the contents of that MANUAL, which is the controlling administrative statement of policy on this subject. Copies of the MANUAL are available on request in the Student Development Services Department and in the library of the school.

Tuition

Tuition for full-time students in Technical or Vocational Programs is $32 per quarter. Students taking less than 12 quarter hours pay $2.50 per quarter hour credit.

Tuition for students whose legal residency is out of the State of North Carolina will be $137.50 per quarter or for part-time students $11.45 per quarter hour credit.

Graduation Fee

A graduation fee of $10 will be charged to students one quarter prior to graduation. Students must complete an application for graduation and pay the fee during registration prior to graduation.

Student Activity Fee

Full-time students (12 or more quarter hours) will be charged an activity fee of $5 per quarter. Students taking less than 12 quarter hours will have an option of paying the activity fee. Those students failing to pay the $5 fee will not be allowed to participate in S. G. A. sponsored activities. Activity fees are not charged for summer quarter.

Insurance

Student insurance is available at the cost of $3 per year. This coverage is for students while at the school and in route to and from school.

Accidents And Reports

Any student injured at school, or in traveling directly to or from school, must immediately report the accident to the Student Development Services Office. At such time, the student would request an insurance form if he-she has purchased the scholastic insurance. The Institute will not approve payment by the insurance company unless the accident has been reported.

Refund Policy

1. Tuition refund to a student shall not be made unless the student is, in the judgment of the Institution, compelled to withdraw for unavoidable reasons. In such cases, two-thirds of the student's tuition may be refunded if the student withdraws within ten calendar days after the first day of classes as published in the school calendar. Tuition refunds will not be considered for tuition of five ($5) dollars or less, except if a course or curriculum fails to materialize, tuitions of all students enrolled for such shall be refunded.

2. In order to comply with Federal regulations in institutions not regionally accredited, the State Board of Education has authorized modification of the tuition refund policy so that veterans or war orphans receiving benefits under U. S. Code Title 38, Chapters 33 and 35, can be refunded the pro rata portion of the tuition not used up at the time of withdrawal of such students.

3. Where a student, having paid the required tuition for a quarter, withdraws from the institution before the end of the quarter and the reasons for the withdrawal are found excusable by the Institution's administration, the student may be allowed credit for unrefunded tuition if he applies for readmission during any of the next four calendar quarters and petitions in writing to be allowed such credit.

4. Where a student, having paid the required tuition and fees for a quarter, dies during that quarter, (prior to or on the last day of examinations of the institution he was attending), all tuition and fees for that quarter may be refunded to the estate of the deceased.

Financial Aid

Roanoke-Chowan Technical Institute makes every effort to encourage students with seriousness of purpose to further their education. Financial assistance will be available to full-time students in the form of scholarships, loans, grants, and part-time employment. Information may be received from the Financial Aid office or the Office of Admissions. The following areas of financial aid are available.

I. College Work-Study Program

Students, particularly those from low-income families, who need a job to help pay for college expenses are potentially eligible for employment by their colleges under Federally supported work-study programs.

The amount of hours a student can work a week will depend on the division he is enrolled in. During the summer or other vacation periods when they do not have classes, students can work full-time (40 hours per week.)

II. Educational Opportunity Grants

This program is available to students with exceptional need. Educational Opportunity Grants vary in amounts due to individual needs and availability of funds.

III. National Defense Student Loans

National Defense Student Loans are awarded in conjunction with other forms of financial assistance. The repayment period and the interest does not begin until nine months after the student ends his studies. The loan bears interest at the rate of 3 per cent each year and repayment of principal may be extended over a ten-year period.

IV. College Foundation Loan

Through the College Foundation, Incorporated, a student who has been approved for admission may borrow up to $1500 per year as provided by the Higher Education Act of 1965, Section IV-B. The Financial Aid Officer gives Institution approval and the College Foundation gives final approval and awards the loan through the Institute's Business Office.

Repayment shall begin nine months after the student ceases to carry a full-time work load. Extension of repayment may not exceed three years during which time the borrower is a member of the Armed Forces, or the Peace Corps, although interest shall accrue and be paid. The borrower may accelerate repayment without penalty. The minimum repayment shall be $360 per year payable on a monthly basis.

V. Basic Educational Opportunity Grants

Basic Educational Opportunity Grants is a new financial aid program for a student who is beginning his post secondary education after July 1, 1973. Every student who applies for a determination of expected family contribution can be certain that this family contribution is being calculated on a formula consistent to all applicants.

Forms for completion and mailing to a contractural agency are available in high schools, technical institutes or post offices.

VI. Veterans Administration Approval

The Institute is approved for the training of veterans, war orphans and children of totally disabled veterans. Veterans seeking such benefits should contact the Veterans office at the school.

VII. Manpower Development Training Act

MDTA accepts students that qualify under local Employment Security Commission regulations. MDTA pays to Roanoke-Chowan Technical Institute those charges actually incurred by the students including tuition, books, supplies, fees and other charges which are required of all other students in the curriculum.

VIII. Social Security

The Social Security law provides monthly benefits to children when a parent on whom they were dependent dies or starts receiving social security, retirement, or disability benefits. The payments can be made until age 22, provided the child is unmarried and a full-time student in an educational institution.

IX. State Vocational Work-Study Program

The state vocational work-study program is designed to provide part-time employment for technical and vocational students who need the earnings from such employment to continue their education on a full-time basis.

X. Vocational Rehabilitation

This service is provided by North Carolina funds, with Federal aid, to assist handicapped persons in obtaining necessary training to become gainfully employed. Individuals with tuberculosis, arthritis, deformities, amputations, heart disease, mental retardation, deafness, emotional illness, paralysis, blindness, and many other handicaps can be served. Vocational rehabilitation provides for all educational expenses (tuition, fees, books) for the individual during his training.

XI. David B. Hendrix Scholarship

This scholarship is sponsored by the Stylistics Civic Club and will consist of tuition, books, and fees, proportionate to the student's needs until graduation. Scholarships will be awarded on the basis of good records of academic achievement and citizenship. One scholarship will be awarded each year to an incoming freshman with expenses paid each quarter until graduation. The recipient is selected by a committee.

XII. Tobacco Invitational Loan

This scholarship is sponsored by friends of the late David B. Hendrix, deceased basketball coach and counselor at Roanoke-Chowan Tech. A holiday tournament is sponsored each year in December with proceeds donated to this fund. The recipient is selected by a committee.

Student Development Services

Guidance And Counseling

Guidance and counseling are an integral part of the total educational program at Roanoke-Chowan Technical Institute.

Trained counselors are available to assist students with academic, occupational and personal social problems. Counseling is available to every student from pre-admission through graduation.

To assist students in their academic programs, Roanoke-Chowan Tech has established an advisor plan where every student is assigned a faculty advisor. The advisor helps plan the students' academic program, keeps a record of his progress, and is available for additional counseling.

Testing

Placement Test Battery

As part of the admissions program, Roanoke-Chowan Tech administers a battery of placement tests to all students. These tests are not entrance exams and will not be used to prohibit admission to any student. The purpose of the placement tests is to provide additional information to assist in planning the students' educational program.

Student Orientation

Roanoke-Chowan Tech offers a continuous orientation program, starting on the first calendar school day of each quarter. All new students are expected to participate in the orientation program. The objectives of the program at Roanoke-Chowan Tech are:

1. To assist students in the articulation from one educational program to another.
2. To acquaint students with the facilities, services, activities, policies and organizations.
3. To encourage and assist students to take advantage of the opportunities offered by the school.
4. To offer continuous assistance to the students, as part of the counseling program.

Placement

Roanoake-Chowan Technical Institute does not guarantee job placement to graduates, but the school will assist in placing graduates in jobs whenever possible. Contact is maintained with business and industrial firms in the area in order to locate employment opportunities for graduates of programs offered at the Institute. Students desiring assistance with placement must notify the Office of Student Development Services at the beginning of their last quarter in school.

Student Rights and Responsibilities

Academic Freedom

The rights of students as citizens are acknowledged and reaffirmed. Student rights include the privilege of education — the freedom to hear, to study, to write, and to exercise the rights of citizenship.

Student Conduct

Roanoke-Chowan Technical Institute expects all students to conduct themselves with honor and to maintain high standards of responsible citizenship. The campus and Institute facilities are not places of refuge or sanctuary. Students, as all citizens, are subject to civil authority on, as well as, off the campus.

The Institute has the right to revoke all scholarships and grants of funds for the assistance of students who are convicted, enter a plea of guilty or nolo contendere to a charge of riot, incite a riot, trespass, or seize the buildings or facilities on the campus.

STATE LAW PROHIBITS THE USE OF ALCOHOLIC BEVERAGES ON PUBLIC PROPERTY.

1. Each student is held responsible for information published through notices and announcements placed on bulletin boards.

2. Students who negligently lose, damage, destroy, sell or otherwise dispose of school property placed in their possession or entrusted to them will be charged for the full extent of the damage or loss and are subject to disciplinary action.

3. Under no condition will alcoholic beverages or narcotics be permitted in or on the school property. No one under the influence of alcohol or narcotics will be allowed on school premises. Any violation of this regulation will result in expulsion from the Institute on the first offense.

4. Students who engage in such acts as stealing, gambling, profane language, personal combat, or possession of firearms and dangerous weapons are liable to disciplinary action.

5. Smoking is prohibited in all classrooms, laboratories and shops unless otherwise permitted by individual instructors.

6. Students are expected to make use of the disposal containers in the halls, shops, and classrooms when discarding materials.

7. Due to the number of danger areas in the Institute, students are asked not to bring children to class with them.

8. Students must remember that when entering and leaving the school parking areas they must always proceed with caution.

9. Drinking of soft drinks, milkshakes, and coffee, as well as eating of food, is allowed only in designated areas. Drinks and food should be kept within the limits of the student lounge or out-of-doors. Cups should not be carried to the classroom at any time.

First Aid

The Administrative Building of the Institute maintains an adequately supplied first-aid kit for the use of the faculty and students. When first aid is needed, contact Student Development Services.

Student Discipline

The president and other administrative officials are authorized to dismiss, suspend, or expel immediately any student who impairs, impedes, or disrupts the legal mission, processes, or functions of the Institute. Students counseling, encouraging, instigating, or inciting others to impair, impede, or disrupt the educational and other lawful operations of the Institute also shall be subject to immediate suspension, dismissal, or expulsion.

Student Appeal

When a student of the Institute is dismissed, suspended, or expelled, the student is entitled to procedural due process. Upon written notice of appeal by the student, a written copy of charges shall be delivered to the student and he shall have the right to confrontation, the right of cross examination of witnesses, the right to present evidence, and the right to be represented by counsel of his choice.

The board of original jurisdiciton before which the appeal shall be heard will be the Faculty Executive Committee plus three students appointed by the president of the Student Government Association. An appeal hearing must be scheduled within five days of the written request for such appeal if the student requests a hearing. The decision of the hearing committee should be final, subject only the student's right of appeal to the president of the Institute or ultimately to the government board of the Institute.

Graduation Requirements

Roanoke-Chowan Technical Institute confers the Associate in Applied Science Degree upon students who satisfactorily complete a two-year technical education program. The diploma is awarded to students who satisfactorily complete two years or less in a vocational program. Certificates may be awarded upon completion of selected programs of less than one year in length or whose content falls short of the full curriculum.

Residence Requirements

The student must attend Roanoke-Chowan Tech a minimum of two (2) quarters to be eligible for a degree or diploma (with proper transfer credits applied).

Grading

H — Honor Grade — Completed all objectives with a written evaluation and performance level average of 90 per cent or better on a course in which he is enrolled for the first time. If individual student has to take a test over, he will not make a grade of "H."

P — Completed all objectives with a performance level of 85.

I — Failed to complete all objectives within time limit of quarter. Will have one additional quarter to remove the "I."

F — Failure to remove the "I" within the specified time limit. Must repeat entire course to receive any credit.

WP — Withdrew from course doing satisfactory work at time of withdrawal.

WF — Withdrew from course doing unsatisfactory work at time of withdrawal.

* ANY TEST TAKEN A SECOND TIME CAN EARN ONLY A GRADE OF 85.

Classification of Students

At the end of each quarter the Student Development Services Department will classify each student according to the following categories:

Honor Roll — Students who are in "good standing" and who make a grade of "H" on all courses in which they are enrolled for the first time. If individual student has to take a test over, he will not make a grade of "H".

Dean's List — Students who are in "good standing" and who make a grade of "P" the first time they take the course. The student who has to make up tests during the quarter will still qualify for the Dean's List.

Student in "Good Standing" — Student who has a grade of "P" on 60 per cent of courses taken, who is not under disciplinary action from any instructor or the Department of Student Development Services, is not in arrears in his financial obligations to the school.

Student "Not in Good Standing" — student who has "P's" on less than 60 per cent of courses taken, or under disciplinary action from any instructor or the Department of Student Development Services, or who is in arrears in his financial obligations to the school. This student may be asked to withdraw from classes or school.

Full-time Student — Any student who completes 12 credit hours of work. A student must complete 12 credit hours before being placed on the Honor Roll or Dean's List.

Probationary Status — A student before being classified "Not in Good Standing" will be placed on probationary status for 6 weeks. If deficiencies are not made up within the time allotted, the student automatically is placed in the classification of "Not in Good Standing."

Student Activities

Student Government Association

The Student Government Association is designed to promote the general welfare of the college in a democratic fashion and to facilitate communication between the student body, the faculty, and the administration. The student council provides a means through which students can promote interest in student activities both on and off campus.

General Information and Regulations

Withdrawal

Students desiring to withdraw from the Institute or from a particular course for any reason must contact the Office of Student Development Services to obtain the proper forms and procedures for official withdrawal.

Accreditation

The Roanoke-Chowan Technical Institute is a member of the System of North Carolina Community Colleges and Technical Institutes, and is accredited by the North Carolina State Board of Education. The Institute is a candidate for accreditation with the Southern Association of Colleges and Schools.

Administrative Office Hours

The offices are normally open Monday through Friday from 8 a.m. to 5 p.m. Special appointments may be made at hours other than those listed upon request. In addition, a night supervisor is on duty Monday through Thursday until 10 p.m.

Changes In Regulations

The Institute reserves the right to make changes in the regulations, courses, fees and other matters of policy as it deems necessary.

Attendance Policy

Roanoke-Chowan Tech respects the maturity of its students and their individual responsibility to attend their scheduled classes. According to state policy, a student will be dropped from a particular course if he has recorded five unexcused absences. It is at the discretion of the instructor to determine whether an absence is excused or unexcused. The student may re-enroll in a course from which he has been dropped upon recommendation of the admissions committee. The Registrar's office will make the decision on whether or not a student is dropped from school.

When the instructor considers a student's attendance and/or attitude a problem, he shall inform a counselor who will discuss the situation with the teacher and the student. After the counselor discusses this problem with both parties, the student reports back to class. The second time an instructor considers a student's attendance and/or attitude a problem, he shall refer the student to the Director of Student Development Services for final action. The director shall then inform the instructor of his action.

Intramural Sports

The purpose of this program is to provide all students at Roanoke-Chowan Technical Institute an opportunity for wholesome recreation through participation in a variety of selected and properly supervised activities.

Intercollegiate Athletics

Roanoke-Chowan Tech is a participant in the Eastern Community College Basketball Conference.

Food Service

A short order food service is available on campus in the student lounge. Hamburgers, hot dogs, french fries, etc., are prepared daily during lunch hours. Drinks, candy, potato chips, etc. are also available in the lounge.

Bookstore

The bookstore will be open from 8:30 a.m. till 3 p.m. the first week of the quarter. After the first week, bookstore hours will be from 8:30 a.m. till 9 p.m. and 11 a.m. till 12 p.m. Jackets, sweat shirts, T-shirts and many other supplies are available in addition to all required textbooks.

Parking

There are three student parking lots which are shown on the campus map in the back of the student handbook. It is necessary that all student vehicles be parked in these three parking lots to avoid unnecessary congestion on campus.

Identification Cards

Student identification cards are issued on Registration Day after the student is officially registered, and upon payment of student activity fee. This card will admit students to social, cultural, and educational events sponsored by the school.

Ring Sale

A ring sale is held during the fall and spring quarters of each year, at which time Roanoke-Chowan Tech students who have completed 50 per cent of graduation requirements may purchase a college ring.

Learning Resources Center

Learning Laboratory

The purpose of the Learning Laboratory is to provide a facility for both curriculum students and the general public to meet their academic and vocational needs through use of programmed or self-instructional materials.

With programs for any level of comprehension, the Learning Laboratory is designed for the following goals:

1. To provide the opportunity for students to increase their level of learning before entering a college or university.

2. To help prospective students remove any academic deficiency, thereby enabling them to enroll in the vocational or technical programs.

3. To provide a high school curriculum of courses to help the individual prepare for the General Education Development Test. The Learning Laboratory is a GED Testing Center. Tests are administered by the Coordinator. The High School Equivalency Program administered in the Learning Lab has been approved by the Veterans Administration. Veterans who have not completed high school may enroll in the Learning Lab for 900 hours of benefits.

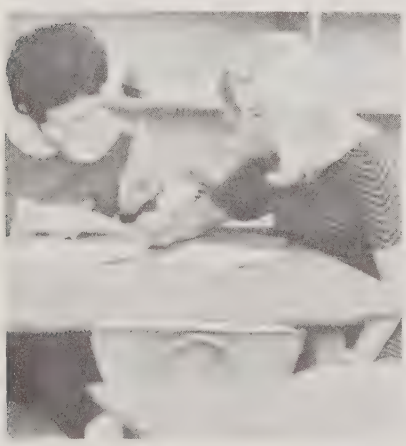
4. To offer curricula courses for credit in diploma or degree programs.

5. To give instruction to anyone, 18 years of age or over, regardless of education background, in any of over one hundred academic and general interest areas, covering materials from first grade through college.

Since there are no formal classes, the student may begin at any convenient time and proceed at his own learning rate. A coordinator is always available to give assistance and determine if the student is progressing satisfactorily.

There is no charge for study in the Learning Laboratory.

The Learning Lab is open both day and evening.



Monday — Thursday	8:00 A.M. — 9:30 P.M.
Friday	8:00 A. M. — 4:00 P.M.
Closed each day	5:00 P.M. — 6:30 P.M.

High School Equivalency

Any adult who has not completed high school may take a series of General Educational Development GED) tests. Upon attaining a passing score of 225 points with no single test score below 35, a High School Equivalency certificate will be awarded. This certificate is generally accepted on equal basis to a high school diploma for employment, promotion, or further education. Most colleges accept the GED tests in determining admission to college of those adults who have not completed their high school education in the traditional manner.

The GED tests cover five broad areas: English expression, literature, mathematics, social studies, and natural sciences. They are administered at the Institute in the Learning Lab at no charge.

The following requirements must be met before taking the GED tests:

1. Minimum age: 19 or 18 if out of regular school at least six months.

2. Residence: CURRENT North Carolina resident.

3. Make application for tests on official blanks that are available at Roanoke-Chowan Technical Institute.

4. Have a valid educational, vocational, or other purpose in applying.

5. Examinee must demonstrate a reading ability of approximately eighth grade level. The RFU Placement Test will be administered.

6. An appointment must be made through the Chief Examiner in the Learning Lab.

Developmental Studies

Before a student is admitted to college transfer or technical courses, he must show evidence of sufficient background in composition, reading, and mathematics to predict success, assuming a reasonable effort on his part. To assist the inadequately prepared student in acquiring and strengthening the basic skills, the Institute maintains a continuous program of developmental studies in cooperation with all divisions (College Transfer, Vocational-Technical, General Adult.)

Developmental courses in composition, reading, and mathematics meet five hours a week during an academic quarter or ten hours a week during a six-weeks summer session, in order to provide in-depth instruction with laboratory experiences fitted to individual student needs. These courses do not carry curriculum credit; however, it is the philosophy of the Institute that offerings of this nature are vital to the best interest of the student.

Developmental Study Programs For Veterans

(approved by Veterans' Administration for students enrolled under G. I. Bill)

PROGRAM	ESTIMATED TIME REQUIRED
High School Equivalency Program	Clock Hours
MATHEMATICS	
Basic Mathematics	110
Algebra I	55
ENGLISH	
English 2600 or its equivalent	110
English 3200 or its equivalent	110
Reading Improvement	165

SOCIAL STUDIES

American Government	55
History of the United States	55
Geography of the United States	55

SCIENCE

General Science: Biology and Chemistry or its equivalent	55
General Science: Measurement, Meterology, and Astronomy or its equivalent	55
Approximately 9 months:	825

Liberal Arts Preparatory Program — Clock Hours

ENGLISH

Eng 091 — English Grammar	55
Eng 092 — English Composition	55
Eng 093 — Reading Improvement	55
Eng 094 — Note Taking	55
Remedial English Laboratory (if indicated)	110

MATHEMATICS

Mat 091 — General Mathematics	55
Mat 092 — Algebra	55
Mat 093 — Geometry	55
Remedial Math Laboratory (if indicated)	110
Approximately 6 months:	

ENG 092 **Grammar and Composition**

A course for the improvement of written communication, with emphasis on sentence structure and paragraph construction. Grammar will be reviewed as a tool for composition.

ENG 093 **Reading Improvement**

A course for the improvement for reading skills, emphasizing comprehension and speed, word attack skills, vocabulary and spelling. Instruction will be individualized to enable the student to progress from his present reading level.

MAT 091 **Developmental Mathematics**

A course for those students deficient in algebra or who have had no algebra. An introduction to algebra consisting of a study of the fundamental operations with algebraic numbers, first degree equations in one and two unknowns, and the mathematical laws basic to algebra.

MAT 092 **Developmental Mathematics**

A study of special products and factoring, algebraic fractions, equations containing fractions, systems of linear equations, powers and logarithms, Prerequisites: MAT 091 or placement by the counselor or instructor.

MAT 093 **Developmental Mathematics**

The study of quadratic equations, series, binominal theorem, permutations and combinations, probability, and trigonometry. Prerequisites: MAT 092 or placement by counselor or instructor.

SPH 091 **Speech Improvement**

A course in the improvement of speech patterns dealing with enunciation, pronunciation, language usage, and with various means of communication, public speaking, drama, radio, and television.

Reading Laboratory

The Reading Laboratory is designed to help the student acquire the reading skills which he will need for his courses now and for his job later. Mastery of the skills necessary to attack new materials encountered by the student in his courses is the primary objective. Once a student has proven his ability to understand what he reads, he begins to build fluency and accuracy to become a more efficient reader.

Learning to adopt the proper approach for his purpose and special study techniques are included. Machines, programmed materials, reading workbooks, and discussion of new concepts are the methods used to achieve objectives.

Each student enters the course at his own level and proceeds as far and as rapidly as his ability permits. Special needs and interests are considered in planning an individual's program.

Reading

T-099
V-099

Instruction in basic reading skills: perceptual accuracy and visual efficiency, vocabulary study and word recognition training, reading fluency, comprehension, and study skills. Emphasis on skills necessary to read and understand course work. Student enters at his own level and progresses at his own rate.

2 hours lecture per week — 55 contact hours
3 hours lab per week — 3 credit hours

Library

The library is designed to help each student meet his vocational and technical goal. The library's goal of encouraging and enabling each student to think critically, reflectively, analytically, and creatively requires that each student receive individual guidance and practice in each of these areas of thinking. The goal also requires that substance for thinking be provided; therefore, the library contains a well-rounded collection of books, pamphlets, periodicals, films, filmstrips, recordings, and transparencies.

Present library holdings include over 5,435 volumes in general, technical and vocational fields. The library subscribes to 112 periodicals, three daily newspapers, the local newspaper, and six weekly newspapers. The open-shelf system enables students to browse freely and encourages reading and studying.

The library orientation period enables each student to become familiar with the use of library materials and the library regulations.

Library Tutorial Program

Roanoke-Chowan Technical Institute believes in the education of all its students, from the student who requires more time to accomplish his goal to the student who is academically gifted. The tutorial program uses a multi-media approach to reinforce the student's knowledge gained through classroom experiences. Any student who desires to be tutored is eligible to participate in the program.

Audio Visual

The Learning Resources Center houses globes, maps, filmstrips, films, tapes, recordings, slides, transparencies, and other forms of communication. It also houses and distributes the equipment necessary for the use of these materials. Movie projectors, filmstrip projectors, opaque and overhead projectors, record players, tape recorders, and other audio visual equipment are provided and scheduled by the Center.

Multi-Media Department

The multi-media department is responsible for the development and production of instructional material. The department has developed, by using the talents of the instructors' many programs. This information is stored on film strips, cassettes, slides, transparencies, and closed circuit television tapes for technical and occupational training.

The Media Specialist and the Educational Development Officer work with the instructors in preparing and recording information. Any time the instructional method can be varied,it increasesthe student's ability to learn more efficiently.

The instructors at Roanoke-Chowan Technical Institute are the finest to be found in the educational system and their talents are recorded to supplement the student's learning process. This information is also used by other educational units with similar programs.

The closed circuit television system is the most recent addition to the department and is being used where the teaching situation demands this medium. Lectures and special events are taped to stimulate the student's interest.

In service from the multi-media department is a quantity of 8mm and 16mm projector filmstrip viewers, slide projectors, recorders, overhead projectors and a television monitor and a play back unit. There is a large selection of information at the Institute as well as the use of movies from private companies and the Audio Visual Department of the University of North Carolina at Chapel Hill.

The department works with the news media at all times by supplying photographs and articles to keep the four-county area informed of new programs and developments at the Institute. The Institute advertises on local radio stations the wide variety of programs offered at Roanoke-Chowan Technical Institute.

The Technical Division

The Technical Division

Technical education has recently assumed new importance in North Carolina and throughout the United States. Acute shortages of trained manpower have developed in many areas despite a surplus of persons who seemingly possess ability and interest in preparing themselves for technical occupations if appropriate opportunities were available.

Broadly defined, technical occupations are those which usually require a high degree of specialized knowledge, a broad understanding of operational procedures, and the ability to supervise the work of others. Roanoke-Chowan Technical Institute prepares students for a number of the basic positions in a particular field, and not for one specific job.

Technical programs of study are designed to prepare students to earn a living as technical personnel in business, industry, the health occupations, or as owner-operators of their own establishments. This design recognizes that general education subjects take on occupational significance in community living, and that the technical subjects provide the freedom of action resulting from occupational competency.

Technical programs, though not intended for transfer to four-year colleges or universities, are now being accepted by most of these institutions. The ultimate objective is employment and further growth through occupational experience. The Associate in Applied Science Degree is conferred to those students successfully completing a technical education program.

Programs Of Study

The Associate in Applied Science Degree is awarded upon completion of one of the following programs:

Architectural Drafting Technology
Business Administration
Executive Secretarial
General Office Technology
Instrumentation Technology

Architectural Drafting Technology

This curriculum was designed in cooperation with the North Carolina Chapter of the American Institute of Architects. Its explicit purpose is to train architectural draftsmen for the architect's office and the building industry. Through a survey made of AIA member firms in North Carolina, it was derterimned that a large number of architectural draftsmen are needed to fill existing vacancies.

This program is designed to provide the individual with knowledge and skills that will lead to employment in the field of architectural drafting and related areas in the construction industry and afford opportunity for advancement in technical knowledge and proficiency. Technical courses are included which will enable the graduate to advance into related areas of work as job experience is obtained. This program represents the education requirements as established by the Architectural Drafting Advisory Committee, which was a panel formed by members of the AIA, consultants, and curriculum lab specialist. The statement of goals and expectations of this committee are as follows below and on the next page.

Predicated upon the fact that the architectual drafting curriculum has been established through the guidance of the North Carolina chapter of the American Institute of Architects, it is necessary that seven quarters be completed to earn a degree.

The fourth quarter is utilized to give the student an opportunity to work in curriculum related work off the campus if such is available. If off-campus work is not available, the in-class work schedule is arranged to give the student ample time to work toward drafting skills improvement without being interrupted by related subjects.

Architectural Drafting Technology

GOALS:

To conduct a training course which would prepare a person with a high school background to develop, by further study and experience, the ability necessary to communicate the architect's designs to the builder.

It is anticipated that graduates of the proposed curriculum would be prepared to enter an architect's office as "technicians" with the ability to turn the architect's designs into working drawings for the building industry. Graduates should be competent draftsmen, well informed on the building industry in general, the operation of architects' offices, and should have a knowledge of materials and techniques of construction. Their training should include an appreciation of the mechanical, electrical, and structural aspects of buildings. Basic training in oral and written communication will give graduates a background for developing their potential in broader aspects of architectural practice, such as specification writing and supervision of construction.

We do not expect or desire that graduates be designers or artists but competent "technicians" filling an important position in the field of architectural practice We recognize that all graduates will not work for architects. The curriculum is broad enough to enable graduates to work in related fields of construction. Their advancement to position of responsibility would be dependent only on their own aspirations and willingness to study and work. Their education would just begin with this curriculum.

Architectural drafting technicians are concerned with turning the architect's design sketches into complete and accurate working plans and detail drawings for construction purposes. He may prepare floor plans, elevation drawings, window and room schedules, and site plans. The drafting technician may be involved in work in areas such as engineering, building construction, specification writing, construction models, or architectural rendering. The opportunity for employment is very good.

Architectural Drafting Technology

Suggested Sequence of Courses by Quarter

Course Title			Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER					
T-ENG	101	Grammar	3	0	3
T-MAT	101	Technical Mathematics I	5	0	5
T-PHY	101	Physics: Properties of Matter	3	2	4
T-DFT	106	Architectural Drafting I	2	6	4
T-CIV	105	Architectural Materials & Methods	3	1	3
			16	9	19
SECOND QUARTER					
T-ENG	102	Composition	3	0	3
T-MAT	102	Technical Mathematics II	5	0	5
T-PHY	102	Physics: Work, Energy, Power	3	2	4
T-DFT	107	Architectural Drafting II	2	6	4
T-AHR	106	Architectural Mechanical Equipment	3	1	3
			16	9	19
THIRD QUARTER					
T-ENG	103	Report Writing	3	0	3
T-MAT	103	Technical Mathematics III	5	0	5
T-PHY	103	Physics: Light, Sound, & Electricity	3	2	4
T-DFT	108	Architectural Drafting III	0	9	3
T-CIV	114	Statics	3	0	3
			14	11	18
FOURTH QUARTER					
T-DFT	229	Architectural Drafting (Work Experience)	5	15	10
T-MEC	101	Machine Processes	2	3	3
			7	18	13
FIFTH QUARTER					
T-ENG	204	Oral Communications	3	0	3
T-CIV	216	Strength of Materials	3	2	4
T-DFT	220	Architectural Drafting IV	2	10	5
T-CIV	101	Surveying I	2	3	3
			10	15	15
SIXTH QUARTER					
T-PSY	206	Applied Psychology	3	0	3
T-DFT	221	Architectural Drafting V	2	10	5
T-DFT	233	Office Practice Seminar	2	0	2
T-DFT	235	Codes, Specifications & Contract Documents	3	0	3
T-CIV	217	Construction Methods Equipment	3	2	4
			13	12	17

SEVENTH QUARTER

T-DFT	222	Architectural Drafting VI	2	9	5
T-DFT	236	Principles of Estimating & Field Inspecting	3	3	4
T-DFT	230	Structural Drafting	2	6	4
			7	18	13
		TOTAL QUARTER HOURS	83	92	116

Seven quarters are required to receive a degree.

Business Administration

In North Carolina the opportunities in business are increasing. With the increasing population and industrial development in the state, business has become more competitive and automated. Better opportunities in business will be filled by students with specialized education beyond the high school level. The Business Administration Curriculum is designed to prepare the student in several of the phases of administrative work that might be encountered in the average business.

The specific objectives of the Business Administration curriculum are to develop the following competencies:

1. Understanding of the principles of organization and management in business operations.

2. Understanding our economy through study and analysis of the role of production and marketing.

3. Knowledge in specific elements of accounting, finance, and business law.

4. Understanding and skill in effective communication for business.

5. Knowledge of human relations as can be applied to successful business operations in a rapidly expanding economy.

The graduate of the Business Administration curriculum may enter a variety of career opportunities from beginning sales person or office clerk to manager trainee. The duties and responsibilities of this graduate vary in different firms. These encompassments might include: making up and filing reports, tabulating and posting data in various books, sending out bills, checking calculation, adjusting complaints, operating various office machines, and assisting managers in supervising. Positions are available in business such as advertising, banking, credit, retailing, wholesaling, hotel, tourist and travel industry, insurance, transportation, and communication.

Business Administration
Suggested Sequence of Courses by Quarter

Course Title			Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER					
T-ENG	101	Grammar	5	0	5
T-BUS	102	Typewriting (or Elective)	2	3	3
T-MAT	110	Business Mathematics	5	0	5
T-BUS	120	Accounting	5	2	6
			17	5	19
SECOND QUARTER					
T-ENG	102	Composition	3	0	3
T-BUS	121	Accounting	5	2	6
T-BUS	115	Business Law I	3	0	3
T-BUS	110	Office Machines	2	2	3
T-BUS	103	Typewriting	2	3	3
			15	7	18
THIRD QUARTER					
T-ENG	204	Oral Communications	3	0	3
T-BUS	232	Sales Development	3	0	3
T-BUS	123	Business Finance	3	0	3
T-BUS	122	Accounting	5	2	6
T-BUS	116	Business Law II	3	0	3
			17	2	18
FOURTH QUARTER					
T-BUS	101	Introduction to Business	5	0	5
T-BUS	124	Business Finance	3	0	3
T-EDP	104	Intro. to Data Processing	3	2	4
T-ECO	102	Economics	3	0	3
T-BUS	247	Business Insurance	5	0	5
			19	2	20
FIFTH QUARTER					
T-ENG	206	Business Communication	3	0	3
T-BUS	226S	Payroll Accounting	5	0	5
T-BUS	235	Business Management	3	0	3
T-BUS	239	Marketing	5	0	5
T-ECO	104	Economics	3	0	3
T-PSY	102	Psychology	3	0	3
			22	0	22
SIXTH QUARTER					
T-SSC	201	Government	3	0	3
T-BUS	229	Taxes	3	2	4
T-BUS	272	Principles of Supervision	3	0	3
T-BUS	271	Office Management	3	0	3
T-BUS	243	Advertising	3	2	4
			15	4	17
TOTAL QUARTER HOURS			106	20	115

Executive Secretarial

The demand for better qualified secretaries in our ever-expanding business world is becoming more acute. The purpose of this curriculum is to outline a training program that will provide training in the accepted procedures required by the business world and to enable persons to become proficient soon after accepting employment in the business office.

The Executive Secretarial curriculum is designed to offer the students the necessary secretarial skills in typing, dictation, transcription, and terminology for employment in the business world. The special training in secretarial subjects is supplemented by related courses in mathematics, accounting, business law, and personal development.

The graduate of the Executive Secretarial curriculum should have a knowledge of business terminology, skill in dictation, and accurate transcription of business letters and reports. The graduate may be employed as a stenographer or a secretary. Stenographers are primarily responsible for taking dictation and transcribing letters, memoranda, or reports. The secretary, in addition to taking dictation and transcribing, is given more responsibility in connection with meeting office callers, screening telephone calls, and being an assistant to an executive. She may enter a secretarial position in a variety of offices in business such as insurance companies, banks, marketing institutions, and other types of financial firms.

Executive Secretarial

Suggested Sequence of Courses by Quarter

Course Title			Hours Per Week Class	Hours Per Week Lab	Quarter Hours Credit
FIRST QUARTER					
T-BUS	102	Typewriting (or Elective)	2	3	3
T-ENG	101	Grammar	5	0	5
T-MAT	110	Business Math	5	0	5
T-BUS	106	Shorthand(or Elective)	3	2	4
			15	5	17
SECOND QUARTER					
T-ENG	102	Composition	3	0	3
T-BUS	103	Typewriting (or Elective)	2	3	3
T-BUS	107	Shorthand	3	2	4
T-BUS	120	Accounting	5	2	6
T-BUS	110	Office Machines	2	2	3
			15	9	19
THIRD QUARTER					
T-ENG	204	Oral Communications	3	0	3
T-BUS	104	Typewriting	2	3	3
T-BUS	108	Shorthand	3	2	4
T-BUS	121	Accounting	5	2	6
T-BUS	112	Filing	3	0	3
			16	7	19
FOURTH QUARTER					
T-BUS	101	Introduction to Business	5	0	5
T-BUS	206E	Dictation and Transcription	3	2	4
T-BUS	205	Advanced Typewriting	2	3	3
T-BUS	211	Office Machines	2	2	3
T-EDP	104	Intro. To Data Processing	3	2	4
			15	9	19
FIFTH QUARTER					
T-BUS	183E	Terminology and Vocabulary	2	3	3
T-BUS	207E	Dictation and Transcription	3	2	4
T-BUS	214	Secretarial Procedures	3	2	4
T-BUS	115	Business Law (Elective)	(3)	(0)	(3)
T-BUS	206	Advanced Typewriting	2	3	3
T-BUS	226S	Payroll Records and Accounting	5	0	5
			15	10	19

Course Title			Hours Per Week Class	Hours Per Week Lab	Quarter Hours Credit
SIXTH QUARTER					
T-BUS	208E	Dictation and Transcription-Exec.	3	2	4
T-BUS	134	Personal Development	3	0	3
T-BUS	210E	Typing Office Practice	2	3	3
T-BUS	116	Business Law (Elective)	(3)	(0)	(3)
T-BUS	212	Machine Transcription	2	3	3
T-ENG	206	Business Communications	3	0	3
			13	8	16
TOTAL QUARTER HOURS			86	51	109

General Office Technology

More people are now employed in clerical occupations than in any other single job category. Automation and increased productions will mean that these people will need more technical skills and a greater adaptability for diversified types of jobs.

The General Office Technology curriculum is designed to develop the necessary variety of skills for employment in the business world. Specialized training in skill areas is supplemented by related courses in mathematics, accounting, business law, and applied psychology.

The graduate of the General Office curriculum may be employed as an administrative assistant, accounting clerk, assistant office manager, bookkeeper, file clerk, machine transcriptionist, or in a variety of other clerical-related jobs. Positions are available in almost every type of business, large or small.

General Office Technology

Suggested Sequence of Courses by Quarter

Course Title			Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER					
T-ENG	101	Grammar	5	0	5
T-BUS	102	Typewriting (or Elective)	2	3	3
T-MAT	110	Business Mathematics	5	0	5
T-BUS	232	Sales Development	3	0	3
			15	3	16
SECOND QUARTER					
T-ENG	102	Composition	3	0	3
T-BUS	103	Typewriting (or Elective)	2	3	3
T-BUS	110	Office Machines	2	2	3
T-BUS	115	Business Law I	3	0	3
T-BUS	120	Accounting	5	2	6
			15	7	18
THIRD QUARTER					
T-ENG	204	Oral Communications	3	0	3
T-BUS	104	Typewriting	2	3	3
T-BUS	112	Filing	3	0	3
T-BUS	116	Business Law II	3	0	3
T-BUS	121	Accounting	5	2	6
			16	5	18
FOURTH QUARTER					
T-BUS	101	Introduction to Business	5	0	5
T-BUS	205	Advanced Typewriting	2	3	3
T-BUS	211	Office Machines	2	2	3
T-ECO	102	Economics (Elective)	(3)	(0)	(3)
T-BUS	212	Machine Transcription	2	3	3
T-EDP	104	Intro. To Data Processing	3	2	4
			14	10	18
FIFTH QUARTER					
T-BUS	183E	Terminology and Vocabulary	2	3	3
T-BUS	214	Secretarial Procedures	3	2	4
T-BUS	206	Advanced Typewriting	2	3	4
T-BUS	226S	Payroll Accounting	5	0	5
T-PSY	102	Psychology	3	0	3
			15	8	19
SIXTH QUARTER					
T-BUS	271	Office Management	3	0	3
T-BUS	229	Taxes	3	2	4
T-BUS	210E	Typing Office Practice	2	3	3
T-BUS	134	Personal Development	3	0	3
T-ENG	206	Business Communications	3	0	3
			14	5	16
TOTAL QUARTER HOURS			89	38	105

Instrumentation Technology

Wherever there is a process occurring that must be monitored or controlled, there is a need for instrumentation. This process may vary from the simple turning of a thermostat because the room temperature is uncomfortable to the complex launch and flight control of a spacecraft from mission control. Whatever the degree of simplicity or complexity, there are many fundamental concepts which are basic to all areas of the instrumentation field.

Realizing this, the instrumentation program has been developed to provide a course of study which will give the student this basic core of knowledge. After learning the fundamental principles of instrumentation, the student continues into advanced study of both the individual component parts and the system analysis of industrial applications that will be encountered once he enters industry as an instrumentation technician.

To meet the ever increasing demands placed upon the instrumentation technician, the student will study such subjects as mathematics, physics, chemistry, fluids (pneumatic and hydraulic), electronics, and English grammar and composition.

With such a comprehensive program it is felt that a graduate of Roanoke-Chowan Technical Institute with an Associate in Applied Science Degree in Instrumentation Technology will be trained to become a specialist within his chosen field and to accept the responsibilities as well as the wages that such a position can bring. He should be satisfied with nothing less!

Instrumentation Technology
Suggested Sequence of Courses by Quarter

Course Title			Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER					
T-ELC	101	Fundamentals of Electricity	3	5	5
T-DFT	101	Technical Drafting	0	4	2
T-PHY	101	Physics: Properties of Matter	3	2	4
T-MAT	101	Technical Mathematics I	5	0	5
T-ENG	101	Grammar	3	0	3
			14	11	19
SECOND QUARTER					
T-MEC	241	Pneumatic Control I	2	3	3
T-ELC	102	Fundamentals of Electricity	2	3	3
T-DFT	102	Technical Drafting	0	2	1
T-PHY	102	Physics: Work, Energy, Power	3	2	4
T-MAT	102	Technical Mathematics II	5	0	5
T-ENG	102	Compositon	3	0	3
			15	10	19
THIRD QUARTER					
T-MEC	242	Pneumatic Control II	3	9	6
T-PHY	104	Physics: Light and Sound	3	2	4
T-MAT	103	Technical Mathematics III	5	0	5
T-ENG	103	Report Writing	3	0	3
			14	11	18
FOURTH QUATER					
T-MEC	114	Preventive and System Maintenance	5	15	9
T-MEC	101	Shop Theory	2	3	4
			7	18	13
FIFTH QUARTER					
T-MEC	243	Pneumatic Control III	2	4	4
T-CHM	111	General Chemistry I	3	4	5
T-ELN	101	Electronic Instruments and Measurements	2	3	3
T-CIV	108	Hydraulics	2	2	3
T-ENG	204	Oral Communications	3	0	3
			12	13	18
SIXTH QUARTER					
T-CHM	112	General Chemistry II	3	4	5
T-ELN	228	Instrumentation Project	1	5	3
T-ELN	105	Control Devices	3	5	5
T-ELN	217	Calibration and Standardization	1	3	2
T-PSY	101	Psychology (Elective)	(3)	(0)	(3)
			8	17	15

Course Title			Hours Per Week		Quarter Hours
			Class	Lab	Credit
SEVENTH QUARTER					
T-ELN	229	Instrumentation Project	4	4	6
T-ELN	226	Control System Analysis	3	7	5
T-CHM	113	General Chemistry	3	4	5
			10	15	16
TOTAL			80	95	121

Six quarters are required for graduation.

The fourth quarter is primarily work experience and not required.

Course Descriptions

Air Conditioning, Heating and Refrigeration

T-AHR 106 **Architectural Mechanical Equipment**

General study of heating, air conditioning, plumbing, and electrical equipment, materials and symbols. Building code requirements pertaining to residential and commercial structures. Reading and interpretation of working drawings by mechanical engineers. Coordination of mechanical and electrical features with structural and architectural designs. Prerequisite: None

Business

T-BUS 101 **Introduction to Business**

A survey of the business world with particular attention devoted to the structure of the various types of business organizations, methods of financing, internal organizations, and management. Prerequisite: None

T-BUS 102 **Typewriting**

Introduction to the touch typewriting system with emphasis on correct techniques, mastery of the keyboard, simple business correspondence, tabulation, and manuscripts. Prerequisite: None

T-BUS 103 **Typewriting**

Instruction emphasizes the development of speed and accuracy with further mastery of correct typewriting techniques. These skills and techniques are applied in tabulation, manuscripts, correspondence, and business forms.
Prerequisite: T-BUS 102 or the equivalent. Speed requirement: 40 net words per minute for 5 minutes.

T-BUS 104 **Typewriting**

Emphasis on production typing problems and speed building. Attention to the development of the student's ability to function as an efficient typist, producing mailable copies. Production units in tabulation, manuscripts, correspondence, and business forms.
Prerequisite: T-BUS 103 or the equivalent. Speed requirement: 45 net words per minute for 5 minutes

T-BUS 106 **Shorthand**

A beginning course in the theory and practice of reading and writing shorthand. Emphasis on phonetics, penmanship, word families, brief forms, and phrases.
Prerequisite: None

T-BUS 107 **Shorthand**

Continued study of theory with greater emphasis on dictation and elementary transcription.
Prerequisite: T-BUS 106 or the equivalent.

T-BUS 108 **Shorthand**

Theory and speed building. Introduction to office style dictation. Emphasis on development of speed in dictation and accuracy in transcription.
Prerequisite: T-BUS 107

T-BUS 110 **Office Machines**

A general survey of the business and office machines. Training in techniques, processes, operation and application of the ten-key adding machines and the calculator.
Prerequisite: None

T-BUS 112 **Filing**

Fundamentals of indexing and filing, combining theory and practice by the use of miniature letters, filing boxes and guides. Alphabetic, geographic, subject, and Dewey Decimal filing.
Prerequisite: None

T-BUS 115 **Business Law I**

A general course designed to acquaint the student with certain fundamentals and principles of business law, including contracts, negotiable instruments, and agencies.
Prerequisite: None

T-BUS 116 **Business Law II**

Includes the study of laws pertaining to bailment, sales, risk-bearing, partnership-corporation, mortgages, and property rights.
Prerequisite: T-BUS 115.

T-BUS 120 **Accounting**

Principles, techniques and tools of accounting for understanding of the mechanics of accounting. Collecting, summarizing, analyzing, and reporting information about service and mercantile enterprises, to include practical application of the principles learned.
Prerequisite: T-MAT 110.

T-BUS 121 **Accounting**

Partnership and corporation accounting including a study of payrolls, Federal, and state taxes. Emphasis on the recording, summarizing, and interpreting data for management control rather than on bookkeeping skills. A showing of accounting services as they contribute to the recognition and solution of management problems.
Prerequisite: T-BUS 120.

T-BUS 122 **Accounting**

A continuation of T-BUS 121 designed to follow the introductory study in accounting; giving special emphasis on the study of financial statements, current assets, inventories and investments in stocks and bonds as they relate to the corporate structure.
Prerequisite: T-BUS 121

T-BUS 123 Business Finance I

Financing of business units as individuals, partnerships, corporations, and trusts. A detailed study is made of short-term, long-term, and consumer financing.
Prerequisite: None.

T-BUS 124 Business Finance II

Financing, Federal, state and local government, and the ensuing effects upon the economy. Factors affecting supply of funds, monetary and credit policies.
Prerequisite: T-BUS 123.

T-BUS 134 Personal Development

Designed to help the student recognize the importance of physical, intellectual, social, and emotional dimensions of personality. Emphasis is placed on poise, grooming, and methods of personal improvement.

T-BUS 183E Terminology and Vocabulary

Through related activities the student learns to define, spell, and use the vocabulary of his career area.

T-BUS 205 Advanced Typewriting

Emphasis on the development of individual production rates. Learning the techniques needed in planning and in typing projects that closely approximate the work appropriate to the field of study.
Prerequisite: T-BUS 104 Speed requirement: 50 net words per minute for 5 minutes.

T-BUS 206 Advanced Typewriting

Greater emphasis on the development of individual speed and accuracy in typing mailable letters, tables, and business forms.
Prerequisite: T-BUS 205. Speed requirement: 55 net words per minute for 5 minutes.

T-BUS 206E Dictation and Transcription

Develops the skill of taking dictation and of transcribing at the typewriter materials appropriate to the course of study, which includes a review of the theory and the dictation of familiar and unfamiliar material at varying rates of speed. Minimum dictation rates of 90 words per minute required for 5 minutes on new material.
Prerequisite: T-BUS 108.

T-BUS 207E Dictation and Transcription

Covering materials appropriate to the course of study; the student develops the accuracy, speed, and vocabulary that will enable the student to meet the requirements of business and professional offices. Minimum dictation rate of 100 words per minute required for 5 minutes on new material.
Prerequisite: T-BUS 206E.

T-BUS 208E Dictation and Transcription Executive

Principally a speed building course, covering materials appropriate to the course of study, with emphasis on speed as well as accuracy. Minimum dictation rate of 110 words per minute required for 5 minutes on new material. Prerequisite: T-BUS 207E.

T-BUS 210E Typing Office Practice

A course designed to familiarize the student with the forms and routines found in a typical business. Emphasis is placed upon correct procedures and adaptability to varying office methods. Speed requirement: 60 net words per minute for 5 minutes.
Prerequisite: T-BUS 206.

T-BUS 211 Office Machines

Instructions in the operation of duplicating equipment and the dictation and transcribing machines.
Prerequisite: T-BUS 110.

T-BUS 212 Machine Transcription

A study and practice course in the use of transcribing machines in business dictation. Proficiency in word usage, correct grammar, and letter styles will be emphasized.
Prerequisite: T-BUS 103.

T-BUS 213 Office Procedures

Designed to acquaint the student with the responsibilities encountered by a general office worker during the work day. These include the following: receptionist duties, handling the mail, telephone techniques, travel information, telegrams, office records, purchasing of supplies, office organization, and insurance claims.

T-BUS 214 Secretarial Procedures

Designed to acquaint the student with the responsibilities ecnountered by a secretary during the work day. These include: receptionist duties, handling the mail, telephone techniques, travel information, telegrams, office records, purchasing of supplies, office organization, and insurance claims.
Prerequisite: None.

T-BUS 226S Payroll Accounting

A study in the preparation of the payroll which includes: (1) Figuring basic wages, (2) Deducting for taxes (FICA, FUTA, and Federal Income Taxes), and (3) Making necessary journal entries, as well as other problems encountered in preparing the payroll, and (4) legal aspects of employer-employee relationships.
Prerequisite: T-BUS 120.

T-BUS 229 Taxes

Application of Federal and state taxes to various businesses and business conditions. A study of the following taxes: income, payroll, intangible, capital gain, sales, and use excise, and inheritance.
Prerequisite: T-BUS 121.

T-BUS 232 Sales Development

A study of retail, wholesale and speciality selling. Emphasis is placed upon mastering and applying the fundamentals of selling. Preparation for and execution of sales demonstrations required.
Prerequisite: None

T-BUS 235 Business Management

Principles of business management including overview of major functions of management, such as planning, staffing, controlling, directing, and financing. Clarification of the decision-making function versus the operating function. Role of management in business — qualifications and requirements.
Prerequisite: None.

T-BUS 239 Marketing

A general survey of the field of marketing with a detailed study of the functions, policies, and institutions involved in the marketing process.
Prerequisite: None.

T-BUS 243 Advertising

The role of advertising in a free economy and its place in the media of mass communications. A study of advertising appeals; product and market research; selection of media; means of testing effectiveness of advertising. Theory and practice of writing advertising copy for various media.

T-BUS 247 Business Insurance

This course is designed to help the student develop an understanding of what insurance is, what it does, and how it can best serve the individual and business firm. It also explains the role insurance companies play in our economy and in the prosperity of its citizens while offering an understanding of the basic ideas, problems, and principles found in all types of modern-day insurance.

T-BUS 271 Office Management

Presents the fundamental principles of office management. Emphasis on the role of office management including its functions, office automation, planning, controlling, organizing, and actuating problems.
Prerequisite: None.

T-BUS 272 Principles of Supervision

Introduces the basic responsibilities and duties of the supervisor and his relationship to superiors, subordinates, and associates. Emphasis on securing an effective work force and the role of the supervisor. Methods of supervision are stressed.
Prerequisite: None.

Chemistry

T-CHM 111 General Chemistry I

An introductory chemistry course involving chemical terminology, atomic structure, properties of some elements, and the function of the periodic table. Properties of compounds and mixtures are studied as are types of chemical reactions. Laboratory work consists of various inorganic reactions and preparations.
Prerequisite: None

T-CHM 112 General Chemistry II

A study of the properties of elements not covered in T-CHM 111 and a study in greater depth of the combining properties of the elements including equivalent weights. Laboratory work includes chemical reactions and an investigation of properties of solutions.
Prerequisite: T-CHM 111

T-CHM 113 General Chemistry III

A study of properties of metals, electrochemistry, nuclear chemistry, and an introduction to organic chemistry. Laboratory work includes detection of metallic ions and basic organic reactions.
Prerequisite: T-CHM 112

Civil Engineering

T-CIV 101 **Surveying**

Theory and practice of plane surveying including taping, differential and profile leveling, cross sections, earthwork computations, transit stadia, and transit-tape surveys. Layout of footings, floor levels and site work will be emphasized.
Prerequisites: T-MAT 102, T-ARC 107

T-CIV 105 **Architectural Materials and Methods**

Materials used in the construction of architectural sturctures will be studied. Field trips to construction sites and study of manufacturer's specifications for materials. Properties and standard sizes of structural materials, and construction techniques are included.
Prerequisite: None

T-CIV 108 **Basic Hydraulics: Principles of flow**

A basic study of closed conduit and open channel flow, including stream flow, subterranean flow, run-off, pump-head, and wave action.

T-CIV 114 **Statics**

Forces, resultants, and types of force systems; moments, equilibrium of coplanar forces by analytical and graphic methods; stresses and reactions in simple structures; equilibrium of forces in space; center of gravity, centroids, moment of inertia, and hydrostatic load analysis.

T-CIV 216 **Strength of Materials**

Fundamental stress and strain relationship; shear and bending moments; stresses and deflections in beams; introduction to statically indeterminate beams; columns; combined stresses.
Prerequisites: T-MAT 103, T-CIV 114.

T-CIV 217 **Construction Methods and Equipment**

Excavating methods and equipment used in building and highway construction; pile driving; construction techniques and equipment used in reinforced concrete buildings, bridges, lift-slabs, thin-shells and folded plates, erection methods and equipment of structural steel buildings and bridges; carpentry in house and heavy timber construction; construction safety. Field inspection trips.
Prerequisites: T-DFT 102, T-CIV 102

Data Processing

T-EDP 104 **Introduction to Data Processing Systems**

Fundamental concepts and operational principles of data processing systems, as an aid developing a basic knowledge of computers, prerequisite to the detail study of particular computer problems. This course is a prerequisite for all programming courses.
Prerequisite: None

Drafting

T-DFT 101 Technical Drafting

The field of drafting is introduced as the student begins study of drawing principles and practices for print reading and describing objects in the graphic language. Basic skills and techniques of drafting included are: use of drafting equipment, lettering free-hand orthographic and pictorial sketching, geometric construction, orthographic instrument drawing of principal views, and standards and practices of dimensioning. The principles of isometric oblique, and perspective are introduced.

T-DFT 102 Technical Drafting

The field of drafting is continued, as introduced in T-DFT 101, as the principles of isometric, oblique, and perspective are expanded. Consideration is given to coordination of mechanical and electrical features with architectural and structural components by using appropriate symbols and conventions with practical application to working drawings.
Prerequisite: T-DFT 101

T-DFT 106 Architectural Drafting

A course designed to introduce basic drafting skills to the beginning student. This course has no differential established between architectural and mechanical drafting. Basic techniques and skills included are: Orthographic and pictorial sketching, geometric construction, inking and lettering practice and reproduction of drawings.

T-DFT 107 Architectural Drafting

Advanced development in mechanical drafting skills and an introduction to architectural drawings. This course consists of skill development in: detailing working drawings, pictorial drawings such as exploded-view isometrics, topographical drawings, skew lines, intersection and development of surfaces, architectural lettering and dimensioning.
Prerequisite: T-DFT 106

T-DFT 108 Architectural Drafting

An approach in depth to the study of architectural drafting. Development of techniques in architectural lettering, dimensioning, freehand sketching and instrument drawing. Drawings of construction details, using appropriate material symbols and conventions. Working drawings including plans, elevations, sections, scale details and full-size details will be prepared from preliminary sketches.
Prerequisites: T-DFT 107, T-AHR 106, T-CIV 105

T-DFT 220 Architectural Drafting

Drawings of structural plans and details as prepared for building construction include steel, concrete, and timber structural components. Appropriate details and drawings necessary for construction and fabrication of structural members. Reference materials will be used to provide the draftsman with skills and knowledge in locating data and in using handbooks.
Prerequisite: T-DFT 108

T-DFT 221 **Architectural Drafting**

Drawing of plans and details as prepared for mechanical equipment such as air conditioning, plumbing and electrical systems by using appropriate symbols and conventions. Consideration is given to coordination of mechanical and electrical features with structural and architectural components.
Prerequisite: T-DFT 220

T-DFT 222 **Architectural Drafting**

Preparationot the complete set of working drawings for the architectural structure. Preparation of millwork drawings, cabinets and built-in equipment detail drawings, and door, window, and room schedules. Site and landscaping plans will be studied and drawn. Final assembly of the complete document for construction purposes will the complete document for construction purposes will be made.
Prerequisites: T-DFT 221, T-CIV 101, T-DFT 235

T-DFT 230 **Structural Drafting**

A concentrated study and drawing of structural plans, details and shop drawings of the structural components of buildings to include steel, reinforced concrete, and timber structures. Appropriate symbols, conventions, dimensioning practices, and notes as used by the draftsman will be included. Emphasis will be placed on drafting of appropriate drawings for fabrication and erection of the structural components.
Prerequisites: T-ARC 220, T-CIV 105 Elective

T-DFT 233 **Office Practice Seminar**

A study of the professional relationship of the architectural firm in relation to clients, contractors, consultants and other supplier's architects. Ethics of the profession as applicable to the draftsman's role in the architectural firm will be stressed.
Prerequisite: None

T-DFT 235 **Codes, Specifications and Contract Documents**

A study of building codes and their effect in relation to specifications and drawings. The purpose and writing of specifications will be studied along with their legal and practical application to working drawings. Contract documents will be analyzed and studied for the purpose of client-architect-contractor responsibilities, duties, and mutual protection.
Prerequisite: T-DFT 220

T-DFT 236 **Construction Estimating and Field Inspecting**

Interpretation of working drawings for a project; preparation of material and labor quantity surveys from plans and specifications; approximate and detailed estimates of cost. The student will study materials take-off, labor take-off, sub-contractors' estimates, overhead cost, and bid and contract procedures. Detailed inspection of the construction by comparing finished work to the specifications.
Prerequisite: T-DFT 235

Economics

T-ECO 102 Economics

The fundamental principles of economics including the institutions and practices by which people gain a livelihood. Included is a study of the laws of supply and consumption both in relation to the individual enterprise and to society at large.
Prerequisite: None

T-ECO 104 Economics

Greater depth in principles of economics including a penetration into the composition and pricing of national output, distribution of income, international trade and finance, and current economic problems.
Prerequisite: T-ECO 102

Electricity

T-ELC 101 Fundamentals of Electricity

An introduction to electrical and electronic terminology. A study of the structure of matter and electron theory and the relationship between voltage, current and resistance in series, parallel, and series-parallel circuits. Ohm's law, DC Power sources and component identification as related to the expanding electronic instrumentation field.
Prerequisite: None

T-ELC 102 Fundamentals of Electricity

Study of AC, capictance, inductance, vacuum tubes and semi-conductive devices. Rectifier circuits, filter circuits, amplifiers and power supplies of the type used in electric instruments. Reading and troubleshooting circuits by schematics diagram and blueprints.
Prerequisite: T-ELC 101

Electronics

T-ELN 101 **Electronic Instruments and Measurements**

A study of basic electronic instruments, their theory of operation, function, tolerances, and calibration. Both service and laboratory instruments will be studied. Laboratory experience will provide application of each type of instrument studied.

T-ELN 105 **Control Devices**

A study in depth of the electrical characteristics of vacuum tubes and translators. Basic parameters and applications of each device to the three configurations of a three-terminal, two-port system will be included.

T-ELN 217 **Calibration and Standardization**

A course to illustrate the principles of measurement and control, emphasizing the meaning of validity, sensitivity and control devices, units of measurement, and levels of accuracy and trace ability.

T-ELN 226 **Control System Analysis**

A study of the response of systems to instrument control based upon consideration of the system components. Negative and positive feedback along with the implications of closed loop control are covered. Sequence of operation to include ladder diagrams and interlocks, logic diagrams, and relay circuits.

T-ELN 228 **Project**

Troubleshooting repair and calibrate and add to instruments supply located in the lab facilities.

T-ELN 229 **Project**

Advanced study in instrument calibration of all instruments located in the lab of the teaching facilities.

English

T-ENG 101 **Grammar**

Through programmed instruction the student concentrates on the basic areas of grammar, sentence structure, punctuation, and capitalization.
Prerequisite: English entrance test

T-ENG 102 **Composition**

This course is designed to acquaint the student with the skills of pre-writing, writing, and rewriting through a series of short papers.
Prerequisite: T-ENG 101

T-ENG 103 **Report Writing**

The fundamentals of English are utilized as a background for the organization and techniques of modern report writing. Exercises in developing typical reports, using writing techniques and graphic devices are completed by the students. Practical application in preparing a technical report relevant to the student's career area is required.
Prerequisite: T-ENG 102

T-ENG 204 **Oral Communication**

Activities in this course are designed to give the student experience in speaking with and to others in job-related situations. Opportunities to improve listening skills, voice quality, diction, pronunciation, and poise are provided.
Prerequisite: T-ENG 101

T-ENG 206 **Business Communication**

This course offers complete treatment of the principles governing business writing in general and also specific types of business communications: Order letters, inquires and replies, credit and collection letters, sales letters, sales promotion letters.
Prerequisites: T-ENG 101, T-ENG 102

Mathematics

T-MAT 101 **Technical Mathematics I**

Basic arithmetic operations with signed real numbers reviewed. Fundamental slide rule operations are studied with indepth practice. Fundamental algebraic operations such as solving first degree equations in one unknown are covered. The rectangular coordinate system is introduced and graphs of certain equations in one variable are studied.

T-MAT 102 **Technical Mathematics II**

Topics from college algebra are introduced. These include: function concept, quadratic equations, systems of linear equations, the binomial expansion, complex numbers, and graphs of certain equations in one variable.
Prerequisite: T-MAT 101

T-MAT 103 **Technical Mathematics III**

A continuation of T-MAT 101 and an introduction to college trigonometry. Topics include exponential and logarithmic functions, basic trigonometric functions and graphs of these functions. Solutions of oblique triangles with applications. Basic concepts of analytical geometry and differential calculus are introduced.

T-MAT 110 **Business Math**

Designed to introduce business students to the mathematics necessary for the understanding of American business. In addition to practical business applications, business forms and terminology have been used extensively to provide students with a business background.
Prerequisite: None

Mechanical

T-MEC 101 **Machine Processes**

An introductory course designed to acquaint the student with basic hand tools, safety procedures and machine processes of our modern industry. It will include a study of measuring instruments, characteristics of metals and cutting tools. The student will become familiar with the lathe family of machine tools by performing selected coperations such as turning, facing, threading, drilling, boring, and reaming.
Prerequisite: None

T-MEC 114 **Preventive and System Maintenance**

A study of preventive maintenance as opposed to emergency maintenance. A discussion of how and why an instrument preventive maintenance schedule can be conducted by separating all process control equipment into groups.

T-MEC 241 **Pneumatic Control I**

Pneumatic Industrial Instrumentation is divided into three principle sections. This section will develop the basic physics principles of pressure measurement, temperature measurement and liquid level measurement.

T-MEC 242 Pneumatic Control II

This section will deal with the various methods of measuring quantity and rate of flow of compressible and non-compressible fluids, pneumatic transmissions systems and basic control theory.

T-MEC 243 Pneumatic Control III

This section is primarily concerned with the explanation of various types of final control elements such as diaphram motor valves, piston operated valves and valve positioners. Fractional Distillation Instrumentation and Batch Reaction Instrumentation systems will be discussed.

Physics

T-PHY 101 Physics: Properties of Matter

A fundamental course covering several basic principles of physics. The divisions included are solids and its characteristics, liquid at rest and in motion, gas laws and applications. Laboratory experiments and specialized problems dealing with these are part of this course.
Prerequisite: T-MAT 101

T-PHY 102 Physics: Work, Energy, Power

Major areas covered in this course are work, energy, and power. Instruction includes such topics as statics, forces, center of gravity, and dynamics. Units of measurement and the applications are a vital part of this course. A practical approach is used in teaching students the use of essential mathematical formulas.
Prerequisites: T-MAT 101, T-PHY 101

T-PHY 103 Physics: Electricity

Basic theories of light, sound, and electricity, methods of production, and transmission and transforming of electricity are studied. Electron theory, electricity by chemical action, electricity by friction, electricity by magnetism, induction voltage, amperage, resistance, horse-power, wattage, and transformers are major parts of the course.
Prerequisites: T-MAT 101, T-PHY 101

T-PHY 104 Physics: Light and Sound

A survey of the concepts involving wave motion leads to a study of sound, its generation, transmission and detection. The principles of wave motion also serve as an introduction to a study of light, illumination and the principles involved in optical instruments. Application is stressed throughout.
Prerequisites: T-MAT 101, T-PHY 101

Psychology

T-PSY 102 General Psychology

A study of the various fields of psychology, the development process, motivation, emotion, frustration and adjustment, mental health, attention and perception, problems of group living. Attention is given to applications of these topics to problems of study, self-understanding and adjustment to the demands of society.
Prerequisite: None

T-PSY 206 **Applied Psychology**

A study of the principles of psychology that will be of assistance in the understanding of interpersonal relations on the job. Motivation, feelings and emotions are considered with particular reference to on-the-job problems. Other topics investigated are: employee selection, supervision, job satisfaction, and industrial conflicts. Attention is also given to personal and group dynamics so that the student may learn to apply the principles of mental hygiene to his adjustment problems as a worker and a member of the general community.

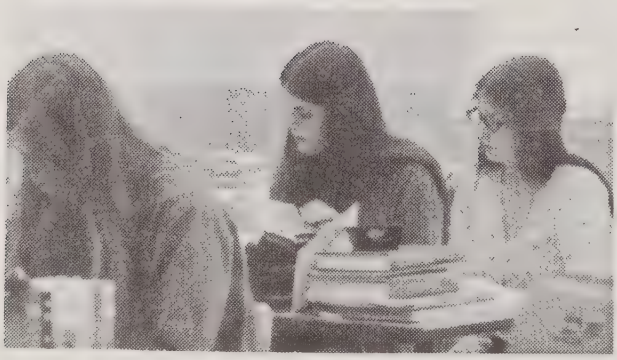
Prerequisite: None

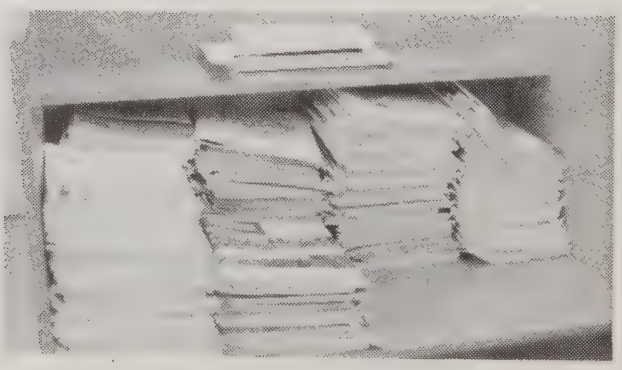
Social Science

T-SSC 201 **Government**

A study of government with emphasis on basic concepts, structure, powers, procedures and problems. The relation and significance of governmental processes to the individual citizen is also stressed.

Prerequisite: None





The Vocational Division

The Vocational Division

The major aims of the vocational programs at Roanoke-Chowan Technical Institute are to prepare skilled craftsmen to successfully meet the manpower needs created by technological advancement and to provide related areas of study which equip the student with the ability to develop an understanding of the free enterprise system and an appreciation for a broader social implication of life in a democratic society.

The vocational programs are designed to prepare the student for initial employment to retrain for new skills, or to advance within a given vocation.

While a high school diploma is desirable, it is not mandatory for entrance into these programs. A person with less than a high school education may be accepted provided he can demonstrate sufficient experience and ability.

Vocational programs vary in length depending upon whether they are full-time or part-time and whether they are diploma or certificate programs.

Programs of Study

A diploma is awarded upon the completion of one of the following:

Air Conditioning, Heating and Refrigeration
Auto Mechanics
Cosmetology
Electronic Servicing
Light Construction
Practical Nurse Education
Welding

Air Conditioning, Heating and Refrigeration

The use of air conditioning, heating and refrigeration equipment has increased tremendously in recent years. Most new business and commercial construction includes "all year" comfort systems. This trend is expanding in home construction as well. The food industry is requiring greater use of refrigeration systems in freezing, storage, and display of products.

With the growing use of air conditioning, heating and refrigeration equipment, there is a greater demand for trained personnel to install, operate, maintain, and service this equipment.

Roanoke-Chowan Tech is offering a one-year, four quarter, curriculum to provide the necessary training for one to become a capable serviceman in this field. Instruction in connecting motors, compressors, temperature controls, humidity controls, and circulating fans to control panels is offered. The student learns to test systems, observe pressure and vacuum gauges and adjust controls for proper operation.

Job opportunities exist with companies that specialize in air conditioning, automatic heating, sheet metal, and commercial refrigeration installation and service.

Air Conditioning, Heating and Refrigeration

Suggested Curriculum by Quarters

Course Title			Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER					
AHR	1121	Principles of Refrigeration	3	12	7
MAT	1101	Fundamentals of Mathematics	5	0	5
ENG	1101	Reading Improvement	2	0	2
PHY	1101	Applied Science	3	2	4
DFT	1104	Blueprint Reading: Mechanical	0	3	1
			13	17	19
SECOND QUARTER					
AHR	1122	Domestic and Commercial Refrigeration	3	9	6
MAT	1102	Algebra	5	0	5
ENG	1102	Communication Skills	3	0	3
ELC	1102	Applied Electricity	2	3	3
DFT	1116	Blueprint Reading: Air Conditioning	1	3	2
			14	15	19
THIRD QUARTER					
AHR	1123	Principles of Air Conditioning	3	12	7
AHR	1128	Automatic Controls	3	6	5
PSY	1101	Human Relations	3	0	3
WLD	1101	Basic Gas Welding	0	3	1
			9	21	16
FOURTH QUARTER					
AHR	1124	Air Conditioning and Refrigeration Servicing	3	6	5
AHR	1126	All Year Comfort Systems	3	6	5
MEC	1120	Duct Construction and Maintenance	3	6	5
BUS	1103	Small Business Operations	3	0	3
			12	18	18
	TOTALS		48	71	72

Auto Mechanics

This curriculum provides a training program for developing the knowledge and skills needed to inspect, diagnose, repair or adjust automotive vehicles. Manual skills are developed in practical shop work. Thorough understanding of the operation principles involved in the modern automobile comes in individual class assignments, discussion, and shop practices.

Complexity in automotive vehicles increases each year becomes of scientific discovery and new engineering. These changes are reflected not only in passenger vehicles, but also in trucks, buses and a variety of gasoline-powered equipment. This curriculum provides a basis for the student to compare and adapt to new techniques for servicing and repair as vehicles are changed year by year.

Automobile mechanics maintain and repair mechanical, electrical and body parts of passenger cars, trucks and buses. In some communities and rural areas they also may service tractors or marine engines and other gasoline-powered equipment. They repair or replace defective parts to restore the vehicle or machine to proper operating condition. They use shop manuals and other technical publications.

Automotive mechanics in smaller shops usually are general mechanics qualified to perform a variety of repair jobs. A large number of automobile mechanics specialize in particular types of repair work. For example, some may specialize in repairing only power steering and power brakes, or automatic transmissions. Usually such specialists have an all-round knowledge of automotive repair and may occasionally be called upon to do other types of work.

Predicated upon the fact that the automotive curriculum has been established through the guidance of the N. C. chapter of the Automotive and Diesel Instructors Association, completion of seven quarters is required for the student to receive an advanced diploma. Students desiring to attend only four quarters may graduate with a diploma.

Auto Mechanics

Course Title			Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER					
PME	1101	Internal Combusion Engines	3	12	7
MAT	1101	Fundamentals of Mathematics	5	0	5
DFT	1101	Schematics and Diagrams (Measurement, Tools, and Engines)	0	3	1
PHY	1101	Applied Science	3	2	4
ENG	1101	Reading Improvement	2	0	2
			13	17	19
SECOND QUARTER					
PME	1102	Engine Elect, and Fuel Systems	5	15	10
DFT	1102	Schematics and Diagrams (Electrical and Fuel Systems)	1	3	2
PHY	1102	Applied Science or Elective	3	0	3
ENG	1102	Communication Skills	3	0	3
			12	18	18
THIRD QUARTER					
PME	1123	Brakes, Chassis and Suspension	3	12	7
PME	1103	Principles of Auto Air Cond.	2	4	4
DFT	1103	Schematics and Diagrams (Chassis and Brakes, etc.)	0	3	1
PSY	1101	Human Relations	3	0	3
BUS	1103	Small Business Operations	3	0	3
			11	19	18
FOURTH QUARTER					
PME	1124	Power Trains	3	10	7
PME	1125	Auto Servicing	3	9	6
WLD	1141	Basic Welding (Related)	2	3	3
			8	22	16
FIFTH QUARTER					
PME	1202	Auto Elect-Electronics	4	9	7
PME	1203	Adv. Tune-up	4	9	7
WLD	1142	Inter. Welding or Elective	1	3	2
			9	21	16
SIXTH QUARTER					
PME	1224	Adv. Automatic Trans.	3	12	7
PME	1221	Adv. Front Suspension and Power Steering	1	3	4
PME	1226	Adv. Auto Servicing or Electives	2	9	5
			6	24	16
SEVENTH QUARTER					
WLD	1142(a)	Intermediate Welding	0	3	1
PME	1214	Advanced Air Conditioning	3	3	4
PME	1225	Power Plant Trouble Shooting	2	9	5
PME	1121	Brakes	2	3	3
PME	1122	Emission Control Systems	2	3	3
			9	21	16
TOTALS			68	142	119

Seven quarters are required to receive an advanced diploma.

Four quarters enable the student to graduate with a diploma.

Cosmetology

Today the cosmetologist is called upon to advise men and women on problems of make-up, diet, and the care of the hair, skin, hands, and nails. Cosmetology is a science consisting of the use of cosmetics based on scientific principles. The cosmetology curriculum is designed to prepare the student for employment in the field of cosmetology which is wide open to those who are interested and apply themselves. It is up to the individual as to how he will advance in the cosmetology profession.

This curriculum is approved by the North Carolina State Board of Cosmetic Art Examiners and provides instruction and practice in manicuring, shampooing, styling, hair pressing, thermal waving and curling, chemical hair relaxing, permanent waving, hair cutting, facials, massages, scalp and hair treatments, hair coloring, brow and lash tints, and wig care and styling.

The cosmetology program is set up so that a student may complete the training in four quarters, providing that the student complete at least 1200 hours in school, and has satisfactorily completed the clinical requirements and scientific study. When a student graduates, then he-she is eligible to apply to the State Board of Cosmetic Art for examination. Art Examiners will issue a Temporary Permit, which will permit the student to work until the scheduled examination is taken. Then after taking the North Carolina Board Examination for cosmetologist and passing it, an Apprentice License will be issued with which the recipient must work under the direct supervision of a registered cosmetologist for six months. After serving the six months apprenticeship, then application can be made to the State Board for a Cosmetologist License. At this time the graduate is qualified to work alone, to supervise an apprentice or to open a shop, etc.

Suggested Sequence of Courses by Quarter

Course Title		Hours Per Week		Quarter Hours Credit
		Class	Lab	
FIRST QUARTER				
C-1001	Scientific Study	42	63	6
C-1011	Mannequin Practice	13	212	7
SECOND QUARTER				
C-1002	Scientific Study	55	0	5
C-1022	Clinical Application	0	275	8
THIRD QUARTER				
C-1003	Scientific Study	55	0	5
C-1033	Clinical Application	0	275	8
FOURTH QUARTER				
C-1004	Scientific Study	55	0	5
C-1044	Clinical Application	0	275	8
	Totals	220	1100	52

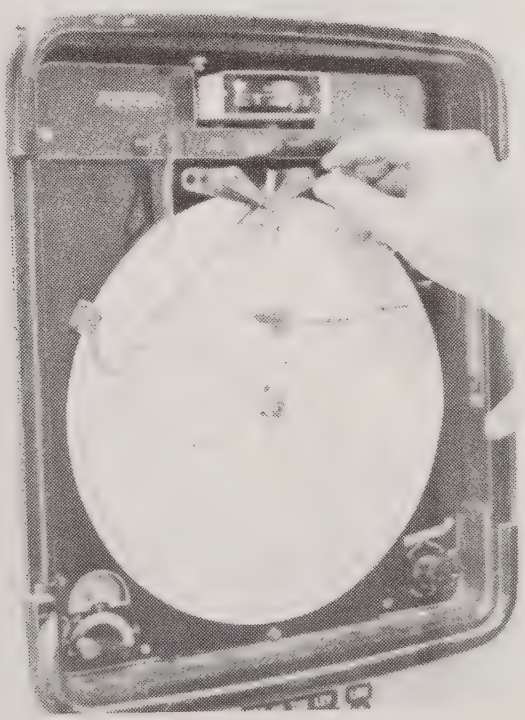
Electronic Servicing

Electronics is a new world, a world of tomorrow in an exciting environment that promises new discoveries every day. With each advancement we face constant challenges — changes — that lead to new theories, new technologies, and new applications that make our lives longer, safer, more comfortable, and more interesting.

Within recent years improved electronic techniques have provided expanded employment opportunities in the field of electronics. These reasons. coupled with an increasingly critical shortage of trained technicians especially in home entertainment electronics industry have inspired Roanoke-Chowan Technical Institute in the preparation and presentation of a comprehensive electronics course in monochrome and color television. However, broadening of the student's outlook will be encouraged through meaningful experiences encountered while studying and repairing automobile radios, tape players, stereo systems, AM-FM radios, record players, test equipment, tape recorders and other consumer electronic devices.

For each of us, there is a personal need to feel that he belongs — to his country, his community, his friends, and especially his job. In fact, because we spend so much of our time at work, it is important that what we do professionally be rewarding and challenging. The field of electronics offers this opportunity — the opportunity to pursue a career that is both satisfying and rewarding.

The electronics curriculum has been established as two year program with intensified laboratory and on-the-job training during the fourth quarter. While fourth quarter attendance is not required for graduation, students are strongly urged to participate in the fourth quarter to cement their understanding of theory and application.



Electronic Servicing

Course Title			Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER					
MAT	1115	Electrical Math	3	2	4
ENG	1101	Reading Improvement	2	0	2
ELC	1112	Direct and Alternating Current	5	18	11
			10	20	17
SECOND QUARTER					
MAT	1116	Electrical Math	3	2	4
ENG	1102	Communications Skills	3	0	3
ELN	1122	Vacuum Tubes and Circuits	4	8	7
ELN	1123	Amplifier Systems	4	6	6
			14	16	20
THIRD QUARTER					
MAT	1117	Electrical Math	3	2	4
ELN	1125	Radio Receiver Service	2	9	5
ELN	1126	Transistor Theory and Circuits	2	9	5
PSY	1101	Human Relations	3	0	3
			10	20	17
FOURTH QUARTER					
ELN	1199	Conceptual Applications	6	24	14
			6	24	14
FIFTH QUARTER					
ENG	1103	Report Writing	3	0	3
MAT	1118	Electrical Math	3	2	4
ELN	1126	Transistor Theory and Circuits	2	8	5
ELN	1127(a)	TV Receiver Circuits and Service	3	9	6
			11	19	18
SIXTH QUARTER					
ELN	1127(b)	TV Receiver Circuits and Services	4	12	9
BUS	1103	Small Business Operations	3	0	3
ELN	1129	Single Sideband Systems	3	8	6
			10	20	18
SEVENTH QUARTER					
ELN	1128	TV Receiver Circuits and Services	3	12	7
ELN	1130	Two-Way Mobile Maintenance	4	8	7
ELN	1220	Electronic Systems	2	1	2
ELN			9	21	16
	TOTALS		70	140	120

Six quarters are required for graduation.

The fourth quarter is primarily work experience and not required.

Light Construction

The potential craftsman in modern construction can be developed in many ways. This program is designed to prepare the learner to enter employment in a variety of payroll jobs in several branches of the light construction or building trades industry. Graduates may obtain employment as apprentices, or helpers with carpenters, bricklayers, or cement-masonry contractors. They will have a basic knowledge of electrical and plumbing installation for home buildings.

The graduates will have experience in blueprint reading and sketching, thus they will be able to interpret prints and make basic sketches. The program is arranged on a part-time basis which will afford adults now working to retrain for a light construction entry job. Also, this program will afford many people living in small towns or sparsely populated counties the opportunity to learn the fundamentals of the light construction industry, and to become employed in these business operations.

For men without previous experience in the light construction trades, a graduate should have sufficient training to be employed as an apprentice with advanced credit toward a journeyman's certificate. These graduates will have experiences needed to work as building maintenance mechanics in small industries, public buildings, schools and apartment houses. Some graduates, after satisfactory experience, may enter business for themselves.

The Light Construction curriculum is essentially a two-phase curriculum which permits the student to select either a one-year program or a two-year program. If the student selects the one-year program, he will attend four quarters prior to graduation. Upon graduation,the student will be issued a diploma indicating successful completion of the one-year program or an advanced diploma, if completing the two-year program.

Light Construction

Course Title			Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER					
MAT	1101(a)	Fundamentals of Math	5	0	5
CAR	1101(a)	Carpentry	5	15	10
ENG	1101(a)	Reading Improvement	2	0	2
DFT	1110	Blueprint Reading and Bldg. Trades	3	0	1
			15	15	18
SECOND QUARTER					
MAT	1101(b)	Fundamentals of Math	5	0	5
CAR	1101(b)	Carpentry	5	12	9
ELC	1123	Electrical Installation	1	2	2
DFT	1111	Blue print Reading and Sketching	3	0	3
ENG	1101(b)	Reading Improvement	2	0	2
			16	14	21
THIRD QUARTER					
BUS	1103	Small Business Operations	3	0	3
PAD	1124	Painting and Refinishing	3	12	7
CAR	1102(a)	Cabinetmaking	3	12	7
			9	24	17
FOURTH QUARTER					
MAS	1101	General Masonry	5	12	9
DFT	1145	Specifications and Contracts	1	0	1
PLU	1115	Plumbing and Installation	2	4	3
PSY	1101	Human Relations	3	0	3
			11	16	16
FIFTH QUARTER					
CAR	1124(a)	Residential and Commercial Construction	3	24	11
MAT MEC	1114	Estimating Construction Costs Work Practice	3	0	3
			6	24	14
SIXTH QUARTER					
CAR	1124(b)	Residential and Commercial Construction	0	20	10
MAT	1114(a)	Estimating Construction Costs	3	0	3
		Work Practice	1	6	3
			4	26	16
SEVENTH QUARTER					
MEC	1136	Building Mechanics	2	6	4
CAR	1102(b)	Cabinetmaking	3	15	8
MEC	1113	Shop Processes	1	3	2
			6	24	14
TOTALS			67	143	116

Four quarters are required to receive a diploma.

Seven quarters are required to receive an advanced diploma.

Nurses' Assistant Certificate Program

This course is designed to prepare qualified personnel to give effective nursing care to selected patients, to make and report observations, and to carry out routine aspects of ward management. Classroom teaching is centered around modern concepts of health, functional relationships within a hospital, fundamentals of effective interpersonal relations, and nursing procedures related to daily needs of patients and to common therapeutic measures. Throughout the course emphasis is given to the role of the nurses' assistant. Clinical experiences provide opportunities for applying classroom learnings to practice in the hospital setting.

The course is one quarter in length and graduates will receive certificates on satisfactory completion of the course.

Unit I: **25 Hours. Introduction to Role of The Nurses' Assistant.**

To help the student develop awareness of the scope of the health field and beginning understanding of health facilities, modern nursing, and the role of the nurses' assistant. A study in broad perspective of the field of nursing, with emphasis on current trends related to division of responsibility among various types and levels of health workers.

Unit II: **15 Hours. Understanding Effects of Illness.**

To help the student develop understanding of common effects of illness on patient, family, and community, and beginning skills in helping patients adjust to illness and-or hospitalization. A study of the diverse effects of illness on the patient, family, and community and the role of health workers in helping the patient and family to make adjustments.

Unit III: **50 Hours. Making Observations on Patients.**

To help the student develop beginning skill in making reliable observations on patients and in reporting to appropriate nursing personnel. A study of common effects of illness in relation to observations the nurses' assistant should be able to make and report with accuracy and dependability.

Unit IV: **30 Hours. Safety Measures in Care of the Sick.**

To help the student develop understanding of medical asepsis, safety, and emergency situations in relation to the role of the nurses' assistant. A study of methods used to protect patients and personnel from infections and accidents and the role of the nurses' assistant in the event of internal or external disaster.

Unit V: **40 Hours. Measures to Promote the Patient's Comfort.**

To help the student develop beginning skills in those aspects of patient care appriate to the role of the nurses' assistant. A study of bedside nursing procedures used in assisting patients with daily needs.

Unit VI: **85 Hours. Measures Related to the Patient's Illness.**

To help the student develop beginning skill in the performance of nursing procedures related to care of the isolated patient, in carrying out orders for unsterile irrigations and simple therapeutic measures, and in meeting selected needs of the surgical patient. A study of simple procedures commonly ordered, by the doctor and appropriate to the role of the nurses' assistant.

Unit VII: **85 Hours. Becoming a Hospital Employee.**

To help the student make the transition to a fully responsible employee role, fulfill citizenship responsibilities a a wage-earner, and set personal standards for quality performance as a member of the nursing team. A study of the nurses' assistant as a practitioner, with emphasis on effective job performance and fulfillment of citizenship responsibilities.

Practical Nurse Education

The accelerated growth of population in North Carolina and rapid advancement in medical technology demand an increased number of well-trained personnel for health services. Realizing this need, Roanoke-Chowan Technical Institute, in conjunction with Roanoke-Chowan Hospital, offers the Practical Nurse Education Program to help meet this need. Classes and clinical experience will be obtained at the hospital.

The aim of the Practical Nurse Education program is to prepare qualified persons for safe participation in care of patients of all ages, in various states of dependency, and with a variety of illness conditions.

Throughout the one-year program the student is expected to continuously acquire knowledge and understanding related to nursing and the biological and social sciences and to develop skills related to nursing practice, communications, inter-personal relations, and use of good judgment. Evaluation of student performance consists of tests on all phases of course content, evaluation of clinical performance, and evaluation of adjustment to the responsibilities of nursing. A passing score of 85 is required on all graded work, plus demonstrated progress in application of nursing skills to actual patient care.

Graduates of accredited programs of Practical Nurse Education are eligible to take the examination given by the North Carolina Board of Nursing. This examination is given twice each year, usually in April and September. A passing score entitles the individual to receive a license and to use a legal title "Licensed Practical Nurse." The license must be renewed annually. The Licensed Practical Nurse can apply for licensure in other states on the basis of a satisfactory examination score, without repeating the examination.

The LPN is prepared to function in a variety of situations: hospitals of all types, nursing homes, clinics, doctors' and dentists' offices and, in some localities, public health facilities. In all situations the LPN functions under supervision of a registered nurse and-or licensed physician. This supervision may be minimal in situations where the patient's condition is stable and not complex; or it may consist of continuous directon in situations requiring the knowledge and skills of the registered nurse or physician. In the latter situation, the LPN may function in an assisting role in order to avoid assuming responsibility beyond that for which the one-year program can prepare the individual.

Job requirements for the Licensed Practical Nurse include suitable personal characteristics, ability to adapt knowledge and understanding of nursing principles to a variety of situations, technical skills for performance of bedside nursing, appreciation for differences of people and for the worth of every individual, a desire to serve and help others, and readiness to conform to the requirements of nursing ethics and hospital policies.

Practical Nurse Education

Course Title			Hours Per Week Class	Lab	Quarter Hours Credit
FIRST QUARTER					
PNE	1101(a)	Fundamentals of Practical Nursing	6	6.5	8
PNE	1102	Nutrition and Diet Therapy	3	0	3
PNE	1103	Anatomy and Physiology	4	0	4
PNE	1104	Introduction to Pediatrics	3	0	3
PNE	1105	Pharmacology I	3	0	3
PNE	1101(b)	Personal and Vocational Adjustments	2	0	2
			21	6.5	23
SECOND QUARTER					
PNE	1106	Medical-Surgical Nursing I	5	0	5
PNE	1107	Maternity Nursing	4.5	0	4.5
PNE	1108	Nursing of Children	5	0	5
PNE	1110	Clinical Experience — Medical, Surgical, Obstretrics, or Pediatrics	0	15	5
ENG	1102	Communication Skills	2	0	2
PNE	1109	Pharmacology II	3	0	3
			19.5	15	24.5
THIRD QUARTER					
PNE	1111	Medical-Surgical Nursing II	7	0	7
PNE	1112	Pharmacology III	7	0	7
ENG	1103	Report Writing	2	0	2
PNE	1113	Clinical Experience — Medical, Surgical, Obstetrics, or Pediatrics	0	15	5
			16	15	21
FOURTH QUARTER					
PNE	1114	Medical-Surgical Nursing III	10	0	10
PNE	1116	Clinical Experience — Medical, Surgical, Obstetrics, or Pediatrics,	0	15	5
PNE	1115	Pharmacology IV	7.5	0	7.5
			17.5	15	22.5
		TOTALS	74	51.5	91

Welding

This curriculum was developed to fill the tremendous need for welders in North Carolina. The recently completed Manpower Survey in our area shows quite clearly that many welders will be needed annually to fill present and projected vacancies in the state. Thus our program is designated to meet both.

The content of this curriculum is designed to give students sound understanding of the principles, methods, techniques, and skills essential for successful employment in the welding field and metals trades.

The field of welding offers a person prestige, security, and a future of continuous employment with steady advancement. It offers employment in practically any industry; shipbuilding, automotive, aircraft, guided missiles, railroads, construction, pipe fitting, production shop, job shops, and many others.

Welders join metals by applying intense heat, and sometimes pressure, to melt the edges to form a permanent bond. There are more than thirty-seven ways of welding metals. Many of these are included in the welding curriculum.

The principal duty of the welder using manual techniques is to control the melting or freezing by directing the heat from either an electric arc or gas welding torch and to add filler metal where it is necessary to control size and shape of the joint. He will be taught how to use a great deal of manipulative skill and given a knowledge of jigs, welding symbols, mathematics, basic metallurgy, and blueprint reading, layout and fitting up of metals.

Multi-skilled welders are in demand locally and Roanoke-Chowan Tech seeks to meet the needs of the four-county area.

Welding

		Course Title	Hours Per Week Class	Hours Per Week Lab	Quarter Hours Credit
FIRST QUARTER					
WLD	1141	Beginning Welding	3	12	7
MAT	1101	Fundamentals of Math	5	0	5
DFT	1104	Basic Blueprint Reading	3	5	5
ENG	1101	Reading Improvement (Welding Nomenclature)	2	0	2
			13	17	19
SECOND QUARTER					
WLD	1142	Intermediate Welding	3	12	7
MAT	1103	Geometry (Basic)	3	0	3
DFT	1117	Blueprints - Welding	2	3	3
MEC	1115	Ferrous Metals	2	5	4
			10	20	17

Course Title					
THIRD QUARTER					
WLD	1124	Inert Gas Welding	3	12	7
DFT	1118	Pipe Welding	4	3	5
WLD	1123(a)	Pipe Pattern Development	4	3	5
			11	18	17
FOURTH QUARTER					
WLD	1123 (bandc)	Inert Gas Welding	3	12	7
WLD	1122	Commercial and Industrial Practices	5	6	7
WLD	1125	Certification Practices	1	3	2
			9	21	16
	TOTALS		43	76	69

Courses Offered At Odom Correctional Unit

Due to the unique restrictions and transient nature of the student body, each student will be granted a certificate of completion at the end of each quarter. If the student successfully completes all quarters as outlined in his curriculum, he will be granted a diploma.

Cabinetmaking

The Cabinetmaking course is designed to equip individuals with the necessary knowledge and skills to enable them to become employed as practical cabinetmakers. The student will study the nomenclature, care, use, storage and safety of hand tools and portable electrical tools used in the cabinetmaking trade. Skills will be developed through practical exercises in laboratory instructions.

Course Title			Hours Per Week Class	Hours Per Week Lab	Quarter Hours Credit
FIRST QUARTER					
CAB	1101	Carpentry and Hand Tools	3	12	7
DFT	1110	Blueprint Reading	3	0	3
ENG	1101(a)	Reading Improvement	2	0	2
PHY	1101(a)	Applied Science — Physics	3	2	4
MAT	1101(a)	Fundamentals of Math	5	0	5
			16	14	21
SECOND QUARTER					
DFT	1111	Blueprint Reading and Sketching	3	0	3
ENG	1101(b)	Reading Improvement	2	0	2
MAT	1101(b)	Fundamentals of Math	5	0	5
PHY	1101(b)	Applied Science — Physics	3	2	4
CAB	1102	Carpentry — Power Tools	3	12	7
			16	14	21
THIRD QUARTER					
CAB	1103	Cabinetmaking	3	12	7
ENG	1102	Communication Skills	2	0	2
MAT	1102	Fundamentals of Math — Albebra	5	0	5
PHY	1102(a)	Applied Science — Physics	3	2	4
DFT	1112	Blueprint Reading — Sketching	3	0	3
			16	14	21

FOURTH QUARTER

Course Title			Hours Per Week Class	Hours Per Week Lab	Quarter Hours Credit
CAB	1104	Cabinetmaking and Furniture Design	3	12	7
ENG	1103	Report Writing	2	0	2
MAT	1103	Fundamentals of Math — Geometry	5	0	5
PHY	1102(b)	Applied Science — Physics	3	2	4
DFT	1112	Blueprint Reading — Sketching	3	0	3
			16	14	21
	TOTALS		64	56	84

Food Preparation Certificate Program

This is a one-year program designed to instruct the student in the basic principles of food preparation as it is practiced in the finest hotels and restaurants in the country. Emphasis is placed on sanitation, maintenance, layouts, duties of the various stations in the kitchen, vegetable preparation, simple salads, a basic introduction to cold sauces, and various methods of cooking. Menu planning, food preparation, and baking are stressed, all with supervised work experience.

Employment opportunities will be found as assistants in the catering service, cooks, buying food, and dining room management in the hotel-motel restaurants and associated fields.

Course Title			Hours Per Week Class	Hours Per Week Lab	Quarter Hours Credit
FIRST QUARTER					
FSO	1101	Orientation to Food Service	1	2	2
FSO	1102	Food Preparation	5	12	9
FSO	1103	Equipment	1	3	2
FSO	1104	Sanitation and Safety	1	3	2
			8	20	15
SECOND QUARTER					
FSO	1105	Accounting and Purchasing Records	3	0	3
FSO	1106	Nutrition and Menu Planning	3	1	3
FSO	1112	Food Preparation	3	9	6
FSO	1107	Baking	3	6	5
			12	16	17
THIRD QUARTER					
FSO	1122	Food Preparation	4	6	6
FSO	1016	Baking and Cooking (Advanced)	3	9	6
FSO	1108	Personnel Management	2	1	2
FSO	1109	Production Management	2	1	2
			11	17	16
FOURTH QUARTER					
FSO	1017	Controlled Work Experience	0	25	8
FSO	1018	Seminar	3	0	3
			3	25	11
		TOTALS	34	78	59

Electrical Installation and Maintenance

The graduate of the electrical trades program will be qualified to enter an electrical trades as an on-the-job trainee or apprentice, where he will assist in the planning, layout, installation, check out, and maintenance of systems in residential, commercial, or industrial plants.

He will have an understanding of the fundamentals of the National Electrical Code regulations as related to wiring installations, electrical circuits, and the measurements of voltage, current, power factor of single and polyphase alternating circuits. He will have a basic knowledge of motor and motor control systems; industrial electronic control systems business procedures organization, and practices; communicative skills; and the necessary background to be able to advance through experience and additional training through upgrading courses offered at the Institute.

Course Title			Hours Per Week Class	Hours Per Week Lab	Quarter Hours Credit
FIRST QUARTER					
ELC	1101(a)	Residential Wiring and Maintenance	3	12	7
ENG	1101(a)	Reading Improvement	2	0	2
MAT	1101(a)	Fundamentals of Math	5	0	5
PHY	1101(a)	Applied Science (Physics)	3	2	4
DFT	1110	Blueprint Reading-Building Trades	3	0	3
			16	14	21
SECOND QUARTER					
ELC	1101(b)	Residential Wiring and Maintenance	3	12	7
ENG	1101(b)	Reading Improvement	2	0	2
MAT	1101(b)	Fundamentals of Math	5	0	5
PHY	1101(b)	Applied Science	3	2	4
DFT	1111	Blueprint Reading and Sketching	3	0	3
			16	14	21
THIRD QUARTER					
ELC	1102(a)	Motors, Generators and Controls	3	12	7
ENG	1102	Communication Skills	2	0	2
MAT	1102	Algebra	5	0	5
PHY	1102(a)	Applied Science	3	2	4
DFT	1112	Blueprint Reading-Codes-Specifications	3	0	3
			16	14	21
FOURTH QUARTER					
ELC	1102(b)	Motors, Generators, and Controls	3	12	7
ENG	1103	Report Writing	2	0	2
MAT	1103	Geometry	5	0	5
PHY	1102(b)	Applied Science	3	2	4
DFT	1113	Blueprint Reading-Electrical	3	0	3
			16	14	21
	TOTALS		64	56	84

Food Preparation Diploma Program

Course Title			Hours Per Week Class	Hours Per Week Lab	Quarter Hours Credit
FIRST QUARTER					
ENG	1101	Reading Improvement	2	0	2
FSO	1101	Orientation to Food Service	2	3	3
PSY	1101	Human Relations	3	0	3
FSO	1102	Food Preparation	3	9	6
FSO	1103	Equipment	1	3	2
FSO	1104	Sanitation and Safety	1	3	2
			12	18	18
SECOND QUARTER					
ENG	1102	Composition	3	0	3
FSO	1105	Accounting-Purchasing-Records	3	0	3
FSO	1106	Nutrition and Menu Planning	3	0	3
FSO	1112	Food Preparation	3	9	6
FSO	1107	Baking	3	6	5
			15	15	20
THIRD QUARTER					
ENG	1103	Oral Communication	3	0	3
FSO	1108	Personnel Management	3	0	3
FSO	1109	Production Management	3	0	3
FSO	1122	Food Preparation	3	9	6
FSO	1016	Baking and Cooking (Advanced)	3	6	5
			15	15	20
FOURTH QUARTER					
FSO	1017	Controlled Work Experience	0	27	9
FSO	1018	Seminar	3	0	3
			3	27	12
		TOTALS	45	75	70

Mechanical Drafting

This curriculum is designed to prepare students to enter the field of mechanical drafting. The first two quarters contain courses basic to all fields of drafting. The third and fourth quarters contain specialization and related courses that prepare one to enter mechanical drafting occupations.

Each course is prepared to enable an individual to advance rapidly in drafting proficiency upon entering the field of work. Courses are arranged in sequence to develop drafting skills and proficiency in mathematics and science. The draftsman associates with many levels of personnel — administrative, architects, engineers, skilled workmen — and must be able to communicate effectively with them. Courses to develop knowledge and skills in communication, human relations, economics and industrial organization are provided to assist the student in developing understanding and confidence in his relations with other persons.

The draftsman prepares clear, complete, and accurate working plans and detail drawings, from rough or detailed sketches or notes for engineering or manufacturing purposes, according to the specified dimensions; makes final sketch of the proposed drawing, checking dimension of parts, materials to be used, the relation of one part to another, and the relation of the various parts to the whole structure. He also makes any adjustments or changes necessary or desired; inks in lines and letters on pencil drawings as required; exercises manual skill in the manipulation of triangle, T-square and other drafting tools; lays tracing paper on drawing and traces drawing in pencil or ink; makes charts for representation of statistical data; and makes finished designs from sketches. Utilizes knowledge of various machines, engineering practices, mathematics, building materials, and other physical sciences to complete the drawings.

The mechanical draftsman performs general duties of a draftsman and also specializes in making rough drafting sketches of proposed mechanical devices, and then drawing necessary details. He also prepares accurate drawings of parts or machines from specification.

Course Title			Hours Per Week		Quarter Hours
			Class	Lab	Credit
FIRST QUARTER					
MAT	1101	Fundamentals of Math	5	0	5
PHY	1101	Applied Science — Physics	3	2	4
ENG	1101	Reading Improvement	2	0	2
DFT	1121	Drafting	3	15	8
			13	17	19
SECOND QUARTER					
ENG	1102	Communication Skills	3	0	3
PHY	1102	Applied Science — Physics	3	2	4
MAT	1102	Fundamentals of Math (Algebra)	3	0	3
DFT	1125	Descriptive Geometry	2	3	3
DFT	1122	Drafting	5	9	8
			16	14	21
THIRD QUARTER					
MAT	1104	Trigonometry	3	0	3
PSY	1101	Human Relations	3	0	3
MEC	1115	Treatment of Ferrous Metals	2	3	3
DFT	1131	Mechanical Drafting	5	14	10
			13	17	19
FOURTH QUARTER					
MEC	1116	Treatment of Non-Ferrous Metals	2	3	3
BUS	1103	Small Business	3	0	3
DFT	1132	Mechanical Drafting	5	14	10
MEC	1213	Production Planning	3	0	3
		TOTALS	13	17	19
			55	65	78

Course Descriptions

Air Conditioning, Heating and Refrigeration

AHR 1121 **Principles of Refrigeration**

An introduction to the principles of refrigeration, terminology, the use and care of tools and equipment, and the identification and the function of the component parts of a system. Other topics to be included will be the basic laws of refrigeration; characteristics and comparison of the various refrigerants; the use and construction of valves, fittings, and basic controls. Practical work includes tube bending, flaring and soldering. Standard procedures and safety measures are stressed in the use of special refrigeration service equipment and the handling of refrigerants. Prerequisite: None.

AHR 1122 **Domestic and Commercial Refrigeration**

Domestic refrigeration servicing of conventional, hermetic, and absorption systems. Cabinet care, controls, and system maintenance in domestic refrigerators, freezers, and window air conditioning units is stressed. Commercial refrigeration servicing of display cabinets, walk-in cooler and freezer units, and mobile refrigeration systems is studied. The use of manufacturers' catalogs in sizing and matching system components and a study of controls, refrigerants, servicing methods is made. The American Standard Safety Code for Refrigeration is studied and its principles practiced. Prerequisite: AHR 1121.

AHR 1123 **Principles of Air Conditioning**

Work includes the selection of various heating, cooling and ventilating systems, investigation and control of factors affecting air clearing, movement, temperature, and humidity. Use is made of psychrometric charts in determining needs to produce optimum temperature and humidity control. Commercial air conditioning equipment is assembled and tested. Practical sizing and balancing of ductwork is performed as needed. Prerequisites: AHR 1122.

AHR 1124 **Air Conditioning and Refrigeration Servicing**

Emphasis is placed on the installation, maintenance, and servicing of equipment used in the cleaning, changing, humidification and temperature control of air in an air conditioned space. Installation of various ducts and lines needed to connect various components is made. Shop work involves burner operation, controls, testing and adjusting of air conditioning and refrigeration equipment, and location and correction of equipment failure. Prerequisite: AHR 1123.

AHR 1126 **All Year Comfort Systems**

Auxiliary equipment used in conjunction with refrigeration systems to provide both heating and cooling for "all year" comfort will be studied and set up in the laboratory. Included will be oil fired systems, gas fired systems, water circulating systems, and electric resistance systems. Installation of heat pumps will be studied along with servicing techniques. Reversing valves, special types of thermostatic expansion valves, systems of de-icing coils, and electric wiring and controls are included in the study.
Prerequisites: AHR 1123, AHR 1128.

AHR 1128 **Automatic Controls**

Types of automatic controls and their function in air conditioning systems. Included in the course will be electric and pneumatic controls for domestic and commercial cooling and heating; zone controls, unit heater and ventilator controls, commercial fan systems controls, commercial refrigeration controls, and radiant panel controls. Prerequisites: ELC 1102, AHR 1122.

Business

BUS 1103 **Small Business Operations**

An introduction to the business world, problems of small business forms and records, financial problems, ordering and inventorying layout of equipment and offices, methods of improving business, and employer-employee relations. Prerequisite: None.

Cabinetmaking

CAB 1101 **Tool Usage**

A course designed to equip individuals with necessary knowledge and skills to enable them to learn the cabinetmaking trade. The student will study the nomenclature, care, use, storage, and safety of hand tools and electrical tools used in the cabinetmaking trade. Skill will be developed through practical exercise in laboratory instruction.

CAB 1102 **Cabinet Layout**

This course is a continuation of CAB 1101. Emphasis will be placed on the layout and the correct measure of framing and finishing cabinets. Skill will be developed through practical exercises in laboratory instruction. Prerequisite: CAB 1101

CAB 1103 **Cabinet Design and Trim Work**

Use of shop tools and equipment will be emphasized in learning methods of construction of millwork and cabinetry. Practical application will include measuring, layout, and construction of: base and wall cabinets, door and window frames, stairs, and interior and exterior cornice, and trim. Materials and finish will also be studied.

CAB 1104 **Paint and Finishing**

Instruction in materials and interior finishing is given. Training is given in the operation of sanding as well as the application of stains, fillers, putties, and paint by hand. Instruction is offered in application of various types of materials, plus the evaluation of quality of finish.

Carpentry

CAR 1101 (a) Carpentry

A brief history of carpentry and the present trends of the construction industry. The course will involve operation, care and safe use of carpenter's handtools and powertools in cutting, shaping, and joining construction materials used in carpentry work.
Prerequisite: None.

CAR 1101 (b) Carpentry

Major topics of study will include theoretical and practical applications involving: materials and methods of construction, building layout, preparation of site, footings, and foundation wall construction including form construction and erection.
Prerequisite: CAR 1101(a).

CAR 1102 Cabinetmaking

Cabinetmaking and millwork as performed by the general carpenter for building construction. Use of shop tools and equipment will be emphasized in learning methods of construction of millwork and cabinetry. Practical application will include measuring, layout, and construction of: base and wall cabinets, built-in desks, door and window frames, stairs, and interior and exterior cornice and trim. Materials and finishes also will be studied.

Cosmetology

C1001 Scientific Study I — First Quarter

This is a course for beginners in cosmetology. It includes a study of professional ethics, grooming and personality development, sterilzation, sanitation, first aid and bacteriology, cosmetology law, anatomy, chemistry, nails, nail disorders, manicuring, hair, scalp, skin and disorders pertaining to the hair, scalp, and skin.

C1011 Mannequin Practice

A study of finger waving, pin curling, rollers, marcelling, hair relaxing, shampooing and rinses, scalp treatment, hair tinting, bleaching, frosting, streaking, wig care and styling.

Advanced Department

The hours earned in the advanced department shall be devoted to the following study and live model performance completions. Work in this department may be done on the public. Students with less than 300 hours shall not work in this department.

C1002 Scientific Study II — Second Quarter

A classroom study of skin, scalp, hair, nails, and their disorders, salesmanship, permanent waving, marcelling, relaxing, hair dressing, wigs and hair coloring.

C1022 **Clinical Application I**

A study of live model performances. This course is designed to develop skills and understanding of techniques and applications in the areas of bacteriology, pin curling, finger waving, rollers, permanent waving, marcelling, chemical relaxing, hair dressing and wigs, manicuring and pedicuring, skin and scalp disorders, hair coloring and hair cutting.

C1003 **Scientific Study III — Third Quarter**

A classroom study of anatomy, manicuring, chemistry, cosmetics — facials, hair styling, theory of massage, scalp treatments, superfluous hair removal, grooming and hygiene.

C1033 **Clinical Application II**

This course fines continued laboratory practice and application of techniques in hair shaping, professional ethics, manicuring, chemistry, cosmetics — facials, hair styling, hair coloring (rinses, etc.) and scalp treatments.

C1004 **Scientific Study IV — Fourth Quarter**

A classroom study of chemistry, sanitation, sterilization, hair coloring and lash and brow tinting, artistry in hair styling, beauty salon salesmanship management, electricity, cold waving, and hair shaping.

C1044 **Clinical Application III**

A continued study of laboratory practices in chemistry sanitation, sterilization, hair coloring and lash and brow tinting, artistry in hair styling, cold waving and hair shaping.

Drafting

DFT 1101 **Schematics and Diagrams, Measurement, Tools and Engines**

Development of ability to read and interpret blueprints, charts, and service manuals. Information on the basic principles of lines, views, dimensions, and notes. A course designed to give the student a broad knowledge of measuring and to interpret those instruments used to measure all factors relevant to engine repairs.

DFT 1102 **Schematics and Diagrams (Electrical and Fuel Systems)**

Development of ability to read and interpret blueprints, charts, and service manuals. A course designed to give the student a broader knowledge of schematics and diagrams as they relate to the automotive electrical and fuel systems.

DFT 1103 **Schematics and Diagrams (Chassis and Brakes, Etc.)**

Development of ability to read and interpret blueprints, charts, and service manuals. A course designed to give the student a broader knowledge of schematics and diagrams as they relate to automotive brakes, chassis, and suspension.

DFT 1104 **Blueprint Reading: Mechanical**

Interpretation and reading of blueprints. Information on the basic principles of the blueprint; lines, views, dimensioning procedures and notes. Prerequisite: None.

DFT 1110 **Blueprint Reading: Building Trades**

Principles of interpreting blueprints and specifications common to the building trades. Development of proficiency in making three-view and pictorial sketches. Prerequisite: None.

DFT 1111 **Blueprint Reading and Sketching**

Principles of interpreting blueprint and specifications common to the building trades. Practice in reading details for grades, foundations, floor plans, elevations, walls, doors and windows, and roofs of buildings. Development of proficiency in making three-view and pictorial sketches. Prerequisite: DFT 1110.

DFT 1112 **Blueprint Reading: Codes-Specifications**

Designed to develop abilities in reading complex drawings in the masonry field. Blueprints of residential and commercial buildings will be studied with emphasis on the plot plan, floor plan, basement and-or foundation plan, walls and various detailed drawings of masonry work. Prerequisite: DFT 1111.

DFT 1113 **Blueprint Reading: Electrical**

Interpretation of schematics, diagrams, and blueprints applicable to electrical installations with emphasis on electrical plans for domestic and commercial buildings. Sketching schematics, diagrams, and electrical plans for electrical installations using appropriate symbols and notes according to applicable codes will be a part of this course.

DFT 1116 **Blueprint Reading: Air Conditioning**

A specialized course in drafting for the heating, air conditioning and refrigeration student. Emphasis will be placed on reading of blueprints that are common to the trade; blueprints of mechanical components, assembly drawings, wiring diagrams and schematics, floor plans, heating system plans including duct and equipment layout plans, and shop sketches. The student will make tracings of floor plans and layout air conditioning systems. Prerequisite: DFT 1122.

DFT 1117 **Blueprint Reading: Welding**

A thorough study of trade drawings in which welding procedures are indicated. Interpretation, use and application of welding symbols, abbreviations, and specifications. Prerequisite: DFT 1104.

DFT 1118 **Pattern Development and Sketching**

Continued study of welding symbols; methods used in layout of sheet steel; sketching of projects, jigs, and holding devices involved in welding. Special emphasis is placed on developing pipe angle layouts by the use of patterns and templates. Prerequisite: None.

DFT 1121 **Drafting**

An introduction to drafting and the study of drafting practices. Instruction is given in the selection, use and care of instruments, single stroke lettering, applied geometry, freehand sketching consisting of orthorgraphic and pictorial drawings. Orthographic projection, reading and instrument drawing of principal views, single auxiliary views (primary) will be emphasized. Dimensioning and note practices will be studied with reference to the American Standards Association practices. Methods of reproducing drawings will be included at the appropriate time. Prerequisite: None.

DFT 1122 **Drafting**

The student will study simple and successive revolutions and their applications to practical problems. Sections and conventions will be studied and both detail and assembly sections will be drawn. Intersections and developments will be studied by relating the drawing to the sheet metal trades. Models of the assigned drawings will be made from construction paper, cardboard, or similar materials as a proof of the solution to the problems drawn. Methods of drawing and projecting axonometric, oblique, and perspective drawings will be studied with emphasis on the practical applications of pictorial drawings. Various methods of shading will be introduced and dimensioning and sectioning of oblique and axonometric pictorials will be done. Prerequisite: DFT 1121.

DFT 1125 **Descriptive Geometry**

Graphical analysis of space problems. The problems deal with practical design elements involving points, lines, planes, connectors, and a combination of these. Included are problems dealing with solid geometry theorems. Where applicable, each graphical solution shall be accompanied by the analytical solution. Prerequisite: DFT 1121.

DFT 1131 **Mechanical Drafting**

An introduction to mechanical drafting beginning with problems concerning precision and limit dimensioning. Methods of fastening materials, and fasteners: keys, rivets, springs, and welding. Symbols will be studied and drawings will be made involving these items. Principles of design will be introduced with the study of basic mechanisms of motion transfer; gears, cams, power trains, pulley, belting and methods of specifying and calculating dimensations will be studied. Drawings will be made involving these mechanisms. Piping symbols and piping from sewer to pressure piping will also be discussed and then drawn.

DFT 1132 Mechanical Drafting

Principles of design drawings, layout drafting, detailing from layout drawings, production drawings and simplified drafting practices constitute areas of study. Specifications, parts list and bill materials are emphasized in this course. The student will develop a complete set of working drawings of a tool jig, fixture, or simple structure. He will primarily be concerned with the foundation, floor plan, and the elevation views of the structure.

DFT 1145 Specifications and Contracts

The purpose and writings of specifications will be studied along with their legal and practical application to working drawings. Contract documents will be analyzed and studied for the purpose of client-architect-contractor responsibilities, duties, and mutual protection. Prerequisites: DFT 1111, MAT 1112, MAT 1114.

Electricity

ELC 1101 (a) Residential Wiring and Maintenance

Provides introduction to electricity, its source application to our lives today. Introduction to the basic tools that are used in wiring — symbols and how to read them on a blueprint. Definitions in the N. E. C., the rules and regulations and basic wiring methods.

ELC 1101 (b)

How wiring methods are applied on the farm — motor rules — controls — switches and wiring — electric heating — air conditioning motors — light fixtures and their installation. How to use the code index and its importance.

ELC 1102 (a) Motors, Generators, and Controls

Practical actual wiring methods on a mock-up building — Install Service-Recepticals — Switches and lights — Practice calculating the load of a building for lights and power — Using code rules and code index.

ELC 1102 (b)

Study of the code as to the wiring of mobile homes — health care centers — hazardous locations — concentrated review of the N. E. C. rules and regulations in preparing for a final examination on Electrical Wiring and Maintenance.

ELC 1112 **Direct and Alternating Current**

A study of the electrical structure of matter and electron theory, the relationship between voltage, current, and resistance in series, parallel, and series-parallel circuits. An analysis of direct current circuits by Ohm's Law and Kirchhoff's Law. A study of the sources of direct current voltage potentials. Fundamental concepts of alternating current flow, reactance, impedance, phase angle, power and resonance. Analysis of alternating current circuits. Prerequisites: None.

ELC 1113 **Alternating Current and Direct Current Machines and Controls**

Provides fundamental concepts in single and polyphase alternating current circuits, voltages, currents, power measurements, transformers, and motors. Instruction in the use of electrical test instruments in circuit analysis. The basic concepts of AC and DC machines and simple system controls. An introduction to the type control used in small appliances such as: thermostats, times, or sequencing switches. Prerequisites: ELC 1112, MAT 1115.

ELC 1123 **Electrical Installation**

Provides instruction and application in the fundamentals of blueprint reading, planning, layout, and installation of wiring in residential application such as: services, switchboards, lighting, fusing, wire sizes, branch circuits, conduits, National Electrical Code regulations in actual building mock-ups. Prerequisite: DFT 1110.

ELC 1124 **Residential Wiring**

Provides instruction and application in the fundamentals of blueprint reading, planning, layout, and installation of wiring in residential applications such as: services, switchboards, lighting, fusing, wire sizes, branch circuits, conduits, National Electrical Code regulations in actual building mock-ups. Prerequisites: ELC 1113, DFT 1110.

ELC 1125 **Commercial and Industrial Wiring**

Layout, planning, and installation of wiring systems in commercial and industrial complexes, with emphasis upon blueprint reading and symbols, the related National Electrical Codes, and the application of the fundamentals to practical experience in wiring, conduit preparation, and installation of simple systems. Prerequisites: ELN 1118, ELC 1124.

Electronic Servicing

ELN 1118 **Industrial Electronics**

Basic theory, operating characteristics, and application of vacuum tubes such as: diodes, triodes, tetrodes, pentodes, and gaseous control tubes. An introduction amplifiers using diodes, and other basic applications.

ELN 1119 **Industrial Electronics**

Basic industrial electronics system such as: motor controls, alarm systems, heating systems and controls, magnetic amplifier controls, welding control systems using thyratron tubes, and other basic types of systems commonly found in most industries. Prerequisites: ELN 1118.

ELN 1122 **Vacuum Tubes and Circuits**

An introduction to vacuum tubes and their development; the theory characteristics and operation of vacuum diodes, semi-conductor diodes, rectifier circuits, filter circuits, triodes, and simple voltage amplifier circuits. Prerequisites: ELC 1112, MAT 1115.

ELN 1123 **Amplifier Systems**

An introduction of commonly used servicing techniques as applied to monophonic and stereophonic high fidelity amplifier systems and auxiliary equipment. The operation and servicing of inter-communication amplifiers and switching circuits will also be taught. Prerequisites: ELN 1122, MAT 1115.

ELN 1125 **Radio Receiver Servicing**

Principles of radio reception and practices of servicing; included as block diagrams of radio receivers, servicing techniques of AM and FM receivers by resistance measurements, signal injection voltage analysis, oscilloscope methods of locating faulty stages and components, and the alignment of AM and FM receivers. Prerequisites: ELN 1123, ELN 1122, MAT 1116.

ELN 1126 **Transistor Theory and Circuits**

Transistor theory, operation, characteristics and their application to audio and radio frequency amplifier and oscillator circuits. Prerequisites: MAT 1117, ELN 1122, ELN 1123.

ELN 1127 **Television Receiver Circuits and Servicing**

A study of principles of television receivers, alignment of radio and intermediate frequency amplifiers, adjustment of horizontal and vertical sweep circuits will be taught. Techniques of trouble-shooting and repair of TV receivers with the proper use of associated test equipment will be stressed. Prerequisites: ELN 1126, ELN 1125.

ELN 1128 **Television Receiver Circuits and Servicing**

A second quarter continuation of ELN 1127 with additional study of more specialized servicing techniques and oscilloscope wave-form analysis will be used in the adjustment, trouble-shooting and repair of the color television circuits. Prerequisites: ELN 1125, ELN 1126, ELN 1127, MAT 1118.

ELN 1129 **Electronic Systems**

A block diagram course investigating numerous electronic systems. Modules or blocks of various manners to produce complex electronic systems. Systems will be explained and reduced to function and then to block diagrams. Prerequisites: ELN 1122, ELN 1123, ELN 1127, ELN 1128.

ELN 1130 **Electronic Systems**

A second quarter continuation of ELN 1129 with additional studies in AM, FM and Single Sideband transmitters and pulse-modulated systems, computers, telementry, navigational systems, sonar and radar will be considered. Prerequisite: ELN 1129.

ELN 1199 **Conceptual Applications**

A strong hands-on experience structured to offer the student an in-depth learning opportunity designed to equate theory to application. Additionally, the student will receive faculty guidance dealing with individual learning activities in a laboratory situation.

ELN 1220 **Electronic Systems**

A block diagram course investigating numerous electronic systems. Modules or blocks of various circuits already studied are arranged in various manners to produce complex electronic systems. Systems will be explained and reduced to functions and then to block diagrams. AM, FM, and Single Sideband transmitters and receivers, multiplexing, TV transmitters and receivers, pulse-modulated systems, computers, telemetry, navigational systems, sonar and radar will be considered.

Food Preparation

FSO 1017 **Controlled Work Experience**

Provides a practical introduction to the broad field of food service. Students will be evaluated by the instructor as to their performance and abilities with the cooperation of the dietitian, manager, and-or the owner of the food service establishment in their area of specialty.
Prerequisite: None.

FSO 1018 **Seminar**

The purpose of this seminar is two-fold: job orientation and evaluation of job experience.
Prerequisite: None.

FSO 1101 **Orientation to Food Service**

Introduction to and history of food service and the outlook for food service industry. Broad objectives and specific goals of training with an investigation of job opportunities and personal qualifications.
Prerequisite: None.

FSO 1102 **Food Preparation**

A study of the scientific principles of food preparation and cooking procedures; included will be preparation of salads, stocks, soups, sauces, gravies, and beverages.
Prerequisite: None.

FSO 1103 **Equipment**

Designed to teach methods of simplifying work through the effective use and care of large and small equipment with emphasis on time and motion economy.

FSO 1104 **Sanitation and Safety**

A study of sanitation standards and safety precautions as related to food storage, preparation, and service.
Presrequisite: None.

FSO 1105 **Accounting-Purchasing-Records**

Basic mathematical skills studied in relation to food purchasing, preparation, accounting and records.
Prerequisite: None.

FSO 1106 **Nutrition and Menu Planning**

A study of the principles of nutrition using the basic four food groups, and the application of these principles to the planning of nutritionally adequate diets; other factors influencing menu planning: refrigeration and storage facilities, availability of seasonal foods, equipment and facilities, employee skills, eye appealing food combinations, type of clientele and food service.
Prerequisite: None.

FSO 1107 **Baking**

An introduction to the principles of and development of skills in baking.
Prerequisite: None.

FSO 1108 **Personnel Management**

A study of the job responsibilities and duties of the food service worker, his relationship to his associates, with emphasis on understanding human behavior; labor policies and legislation; and the importance of self development in relation to professional responsibility.
Prerequisite: PSY 206.

FSO 1109 **Production Management**

Use of standardized recipes and portion control, work sheets, score sheets for judging food products, plan of work to improve work methods and further emphasis on motion economy.
Prerequisite: FSO 1105.

FSO 1112 **Food Preparation**

Emphasis placed on meat analysis and cutting and on meat, poultry, fish, and shellfish cookery.
Prerequisite: FSO 1102.

FSO 1122 **Food Preparation**

Emphasis will be on whole meal preparation; included will be vegetable cookery, preparation of breakfast dishes, and appetizers.
Prerequisite: FSO 1112.

English

ENG 1101 **Reading Improvement**

This course is designed to improve the reading skills which are so critical in the job market. Emphasis is on word attack, word meanings, comprehension, and speed. Students study and write or fill occupational forms and papers.
Prerequisite: None

ENG 1102 **Communication Skills**

This course is designed to promote effective communication through the practice of good language habits in speaking and writing. Prerequisite: None

ENG 1103 **Report Writing**

This course deals with basic principles and forms of writing that any student needs to know. The major emphasis is on industrial writing needs. The course requires the preparation of a variety of technical writing assignments.
Prerequisite: ENG 1102

Masonry

MAS 1101 (a) Masonry

The history of the bricklaying and masonry industry, raw materials, basic manufacturing processes and terminology. Clay and shell brick, mortar, laying foundations, cutting masonry materials, bonding, and the use, care, and maintenance of tools. Practice is given in selecting the proper mortars, layout and construction of various building elements.

Painting and Finishing

PAD 1124 Painting and Finishing

Instruction is given in preparing interior surfaces and exterior areas for painting and finishing. Training is given in the operation of sanding and spray equipment as well as the application of stains, fillers, putties, and paint by hand. Instruction is offered in protecting property, erection of scaffolds, application of various types of materials, plus the evaluation of quality of finishes.

Plumbing

PLU 1115 Plumbing Installations

The students are introduced to the tools, fittings, and equipment used by plumbers. They spend considerable time learning to handle these materials and tools correctly by: cutting pipe, threading, caulking, and sweating joints of the various kinds of pipe and tubing. Plumbing installations are made to provide practical applications. Heating devices, the storage, and circulation of hot water will be studied. The student will receive practice in installation of various plumbing fixtures and the proper use of traps. Field trips should be taken to study various types of installation.

Mathematics

MAT 1101 (a) Fundamentals of Math

Basic operations of addition, subtraction, multiplication, and division of whole numbers and fractions are covered. Application is made of decimals, percentages, ratios and proportions to the building trades.

MAT 1101 (b) Fundamentals of Math

A continuation of MAT 1101(a). Basic geometric figures and solids are described and their areas and perimeters calculated. Extraction of square roots of numbers is studied. Basic properties of right triangles with applications to the building trades are covered.

MAT 1101 Fundamentals of Math

Basic operations of addition, subtraction, multiplication, and division of whole numbers and fractions are covered. Application is made of decimals, percentages, ratios and proportions to various trade related problems. Perimeters and areas of certain geometric figures are studied.

MAT 1102 Algebra

Basic concepts and operations of algebra; historical background of our base-10 number system; algebraic operations: addition, subtraction, multiplication and division; fractions, letter representation, grouping, factoring, ratio and proportions, variation; graphical and algebraic solution of first degree equations; solution of simultaneous equations by addition and subtraction, substitution, graphing; exponents, logarithms, tables and interpolation.
Prerequisite: None.

MAT 1103 Geometry

Basic concepts of plane geometry such as points, lines, angles, triangles are introduced. Perimeters and areas of certain geometric figures are calculated. Certain compass and straightedge constructions are made. Some emphasis is given to the application of geometry to various trades.

MAT 1104 Trigonometry

Trigonometric ratios; solving problems with right triangles, using tables, and interpolating; solution of oblique triangles using law of sines and law of cosines; graphs of the trigonometric functions; inverse functions, trigonometric equations.
Prerequisites: MAT 1101, MAT 1103.

MAT 1114 Estimating II

This is a practical mathematics course in estimating costs from prints and specifications especially for the electrical and plumbing installations. Other problems are selected to insure the mastery of the basic principles of mathematics essential to the electrical and plumbing trades.
Prerequisites: MAT 1101(a), MAT 1101(b).

MAT 1115 Electrical Mathematics

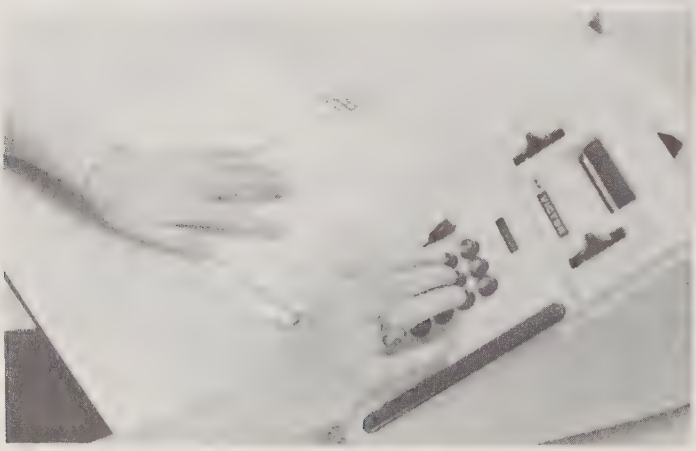
An introductory algebra course with trigonometry and vectors needed in alternating current; algebraic operations of addition, subtraction, multiplication, and division; use of letters and signs, grouping, factoring; exponents, ratios, and proportions; algebraic and graphing solutions of first-degree equations, introduction to trigonometric functions, their graphs and applications to right triangles. Addition, subtraction, and resolution of vector quantities. Prerequisite: None.

MAT 1116 Electrical Mathematics

A working knowledge of the powers of 10, Ohm's Law for series and parallel circuits, quadratic equations, Kirchoff's Law, trigonometric functions, plane vectors, alternating current, vector algebra, and logarithms.

MAT 1117 CONTINUATION OF 1116

MAT 1118 CONTINUATION OF 1117



Mechanics

MEC 1113 Shop Processes

Study of practices used in metalworking shops; introduction to how materials can be utilized, and to the processes of shaping, forming and fabricating of metals. Demonstration of the metalworking lathes, grinders, drills, milling machines, shapers, planers, saws, broachers, gear-cutting machines and finishing machines. A study of the capabilities of these machines.

MEC 1115 Treatment of Ferrous Metals

Investigates the properties of ferrous metals and tests to determine their uses. Instructions will include some chemical metallurgy to provide a background for the understanding of the physical changes and causes of these changes in metals. Physical metallurgy of ferrous metals, producing iron and steel, theory of alloys, shaping and forming, heat treatments for steel, surface treatments, alloy of special steel, classification of steels, and cast iron will be topics for study.

MEC 1116 Treatment of Non-ferrous Metals

Continuation of the study of physical metallurgy. The non-ferrous metals: bearing metals, (brass, bronze, lead), light metals (aluminum and magnesium), and copper and its alloys are studied. Powder metallurgy, titanium, zirconium, indium and vanadium are included in this course.

MEC 1120 Duct Construction and Maintenance

Study of various duct materials including sheet steel, aluminum, and fiber glass. Safety, sheet metal hand tools, cutting and shaping machines, fasteners and fabrication practices, layout methods, and development of duct systems. The student will service various duct systems and perform on the site repairs including ducts made of fiber glass. A study is made of duct fittings, dampers, and regulators, diffusers, heater and air washers, fans, insulation and ventilating hoods. Prerequisite: MEC 1116.

MEC 1136 Building Mechanics

The building mechanic is known as a general handyman or utility repairman. He uses the tools of the several trades to install and adjust mechanical equipment such as air conditioning and heating, connect electrical motors and switches. He maintains floor surfaces with modern protective materials, repairs and paints woodwork, brick and plaster walls, windows, doors and maintains locks, plumbing and other hardware.

MEC 1213 **Production Planning**

Day-to-day plant direction, forecasting, product planning and control, scheduling, dispatching, routing, and inventory control. Case histories are discussed in the classroom, and courses of corrective action are developed. Drafting room layouts for planning and control.

Physics

PHY 1101 **Applied Science (Physical Science — Physics)**

Comprehensive review covering several of the basic principles of physics. The divisions included are general laboratory procedures, properties and relationships of matter and energy, systems of measurement, force and motion, friction, and power transmission; heat, electricity, wave motion and electronic-magnetic waves. Prerequisite: None.

PHY 1102 **Applied Science (Physical Science — Chemistry)**

Comprehensive review covering several of the basic principles of chemistry. The divisions included are general laboratory procedures, mass and energy interconversion, the atomic nucleus, the periodic table, inorganic substances, organic substances and the earth's composition.

Power Mechanics (Automotive)

PME 1101 **Internal Combusion Engine**

Development of a thorough knowledge and ability in using, maintaining, and storing the various hand tools and measuring devices needed in engine repair work. Study of the construction and operation of components of internal combusion engines. Testing of engine performance; servicing and maintenance of pistons, valves, cams and camshafts, fuel and exhaust systems, cooling systems; proper lubrication; and methods of testing, diagnosing and repairing.

PME 1102 **Engine Electrical and Fuel Systems**

A thorough study of the electrical and fuel systems of the automobile. Battery cranking mechanism, generator, ignition, accessories, and wiring; fuel pumps, carburetors, and fuel injectors. Characteristics of fuels, types of fuel systems, special tools, and testing equipment for the fuel and electrical system. Prerequisite: PME 1101.

PME 1103 Automotive Air Conditioning

General introduction to the principles of refrigeration; study of the assembly of the components and connections necessary in the mechanisms, the methods of operation, and control; proper handling of refrigerants in charging the system. Prerequisite: PHY 1102.

PME 1121 Braking Systems

A complete study of various braking systems employed on automobiles and light weight trucks. Emphasis is placed on how they operate, proper adjustments and repair. Prerequisite: PHY 1102.

PME 1122 Emission Control Systems

A comprehensive study of various systems which are being used on modern transportation vehicles. This study gives principles and functions for testing and adjusting all systems incorporated which make up the controlling devices which bring emissions to Federal standards.

PME 1123 Automotive Chassis and Suspension Systems

Principles and functions of the components of automotive chassis. Practical job instruction in adjusting and repairing of suspension, and steering systems. Units to be studied will be shock absorbers, springs, steering systems, steering linkage, and front end alignment. Prerequisite: PME 1102.

PME 1124 Automotive Power Train Systems

Principles and functions of automotive power train systems: clutches, transmission gears, torque converters, driver shaft assemblies, rear axles, and differentials. Identification of troubles, servicing, and repair. Prerequisites: PHY 1102, PME 1123.

PME 1125 Automotive Servicing

Emphasis is on the shop procedures necessary in determining the nature of troubles developed in the various component systems of the automobile. Troubleshooting of automotive systems, providing a full range of experiences in testing, adjusting, repairing, and replacing.

PME 1202 Auto Elect-Electronics

Thorough study of theory and operation of individual automotive electrical units. Analysis and repair of all automotive electrical components. To supplement the engine electrical course for first-year students and help them develop a knowledge of transistor circuits and their application to conventional electrical components and circuitry.

PME 1203 Advanced Auto-Tune Up

Study of operation of various tune-up equipment. Shop practice in use of tune-up equipment on live projects. This practical course should help the student to increase his work experience with the more technical aspects of engine tune-ups and should develop his knowledge of the waveforms of the oscilloscope and other test units on the Tune-up Tester. The student should be able to put to practical use, the basic theory of electricity, storage batteries, ignition systems, cranking motors, charging circuits, and engine principles which he has already learned.

PME 1214 Advanced Air Conditioning

A thorough study of the theory and operation of the systems which are used today in automobiles and light trucks. A detail anaylsis and study of all components, various operations and controls. Also, complete service procedures on components, refrigeration cycle and compressors, thus providing a full range of experiences in testing, adjusting, repairing and replacing units. Prerequisite: PME 1103.

PME 1221 Advanced Front Suspension and Power Steering

A study of the various types of automotive frames (car and truck), theory of weight distribution, and front suspension parts, mounting. Theory of operation, correct disassembly and assembly of all front suspension parts. Designed to give thorough understanding of steering gears (power and standard), shock absorbers, springs, wheels, tires, power steering, pumps, rams, etc. Theory of steering geometry as related to the construction to various automotive front ends. Theory of balancing and the correct use of various types of balancing machines. A study of and practice in the use of alignment specification charts and machines. Analysis and correction of tire wearing problems, vibrations, hard steering, ducking, pulling, etc. Shop practice in diagnosis and correction of problems.

PME 1224 Advanced Automatic Transmission

In order to round out the automotive curriculum, a special course is incorporated here to give greater depth in the understanding of automotive field, a whole new area of service and repair has been opened up to the auto mechanics. This course acquaints the student with the basic principles of all automatic transmissions with detailed analysis of the components, fluid couplings, and torque converter. Theory of hydraulic pressures coupled with gear trains, with emphasis on identification of troubles which develop in these components and the correct servicing and repair.

PME 1225 Power Plant Troubleshooting

A practical study of troubles which often develop in modern power plants. This study provides for a wide range of experiences in a shop situation as well as meaningful discussion involving as much technical data as can be practically applied.

PME 1226 Advanced Auto Servicing or Elective

Emphasis on troubleshooting and repairing the various component systems of the automobile, providing an extra range (beyond that of PME 1125) of testing, adjusting, repairing, and replacing experiences.

Practical Nurse Education

NE 1101 (a) Fundamentals of Practical Nursing

Interpretation of the role of the practical nurse student and basic knowledge to be used in performing nursing. Philosophy and objective of practical nursing in the technical institute setting. Using adequate study methods and materials. Principles basic to nursing practice. Body mechanics for nurse and patient. Sterilization techniques and disinfection methods. Principles of medical and surgical asepsis. Use of hosptial equipment. Techniques in daily hygienic patient care. Spoken and written communications for nurses. Laboratory practice in simple skills and hygienic care of patents.

NE 1101 (b) Personal and Vocational Adjustments

Beginning knowledge of interpersonal relationships in nursing. Nursing ethics, legal aspects of practical nursing. Organizations for the graduate practical nurse. Nursing history and the nursing team are included.

PNE 1102 Nutrition and Diet Therapy

Designed to give knowledge of the basic principles of nutrition for nurses and patient. Functions and sources of nutrients. The mechanics of digestion, absorption, and metabolism of nutrients. Principles of meal planning. Nutritional requirements for all age groups modified by religious, cultural, social, psychological aspects. Diet modification according to disease or disorder.

PNE 1103 Anatomy and Physiology

A thorough study of the general plan of the body and the nine systems: nervous, endocrine, skeletal, muscular, circulatory, digestive, respiratory, urinary, male and female reproductive systems. Designed for understanding of how the body controls its functions, how the body distributes food and oxygen and removes waste, how the body provides for survival.

PNE 1104 Introduction to Pediatrics

Designed to show the patient as a member of a family whose life is altered in illness. Normal child development from birth toold age. Fears, hospitalization of the young child, school age adolescent. Community resources affecting the family. Leisure time and diversions for the adult and child. Physical changes with age. Mental and personality changes of the elderly. Community responsibilities and resources for young and old.

PNE 1105 Pharmacology I

Foundation of basic mathematics including decimals percentages, fractions, and ratios.

PNE 1106 Medical-Surgical Nursing I

Planned to give beginning understanding of the nursing care of common problems caused by illness. Emotional reactions caused by illness and hospitalization. Nurse-patient relationships. Fundamental processes of illness and nursing care. Physiology, reactions and nursing care of pain, diagnostic tests. The nursing needs of the cancer patient. Anesthetic agents and the uses for them. Preoperative and post-operative nursing care, rehabilitation, and modification of diet for disease conditions.

PNE 1107 Maternity Nursing

Presentation of modern aspects of maternity nursing with emphasis on normal obstetrics. Detailed presentation of material on nursing care during antepartum, labor, and post-partum periods. Care of the newborn baby methods of teaching new mothers. Emphasis is to provide better and safer care for expectant mother and her baby.

PNE 1108 Nursing of Children

Understanding of the scope and aims of modern nursing of children. Physical differences in the child from the adult. Methods of answering the needs of the hospitalized child and his parents. Common disorders of children and their implications for nursing care.
Prerequisite: 1104

PNE 1109 Pharmacology II

Development of the skill of giving oral medications. Knowledge of drug sources, methods of preparation, and storage. The classification of drugs by use and by drug content. Conversion between the apothecary and metric system. Prerequisite: PNE 1105.

PNE 1110 Clinical Experience

Beginning experience in a general hospital under supervision of clinical teachers. Opportunities for practicing skills learned in laboratory practice. Emphasis on basic hygienic care for ambulatory and bed patients. Practice in charting nurses' notes and making observations with the use of testing materials and instruments. Beginning opportunities to develop concepts needed for caring for patients as a part of a nursing team. Prerequisites: PNE 1101 (a), PNE 1101 (b), and all other first quarter work.

PNE 1111 **Medical-Surgical Nursing II**

Designed to develop knowledge of common disorders of body systems the nursing care, socio-psychological implications. Includes disorders of the cardiovascular, gastro-intestinal, respiratory, and integumentary systems. Disorders of eye, ear, nose, and throat. Prerequisite: PNE 1106.

PNE 1112 **Pharmacology III**

Development of a thorough knowledge of the equipment and sterile techniques used in preparing and giving injections. Administration of drugs by inhalation, topical application. Insulin therapy. Home drug preparation and storage. Further study in the classification of drugs by use and drug content. Prerequisites: PNE 1105, PNE 1109.

PNE 1113 **Clinical Experiences**

Student learns her role as an assistant to the professional nurse in caring for the more seriously ill patient. Continued experience in the basic areas of medical-surgical nursing, pediatric nursing or obstetrical nursing under supervision of clinical teachers. Practice in giving oral medications and injections under the direct supervision of a clinical teacher. Experience in more complicated nursing treatments. Organization for patient care for large groups of patients.

PNE 1114 **Medical-Surgical Nursing III**

Continuation of the study of disorders of the body systems. Includes musculo-skeletal, indocrine, and nervous systems, urological disorders, nursing care, and first aid. Prerequisites: PNE 1106, PNE 1111.

PNE 1115 **Pharmacology IV**

Further study in the classification of drugs by use and drug content. Prerequisites: PNE 1105, PNE 1109, PNE 1112.

PNE 1116 **Clinical Experience**

Further experience in the practice of nursing skills. Continued experiences in the basic areas of medical-surgical nursing, pediatric nursing or obstetrical nursing. Experience in giving medications under the direction of clinical teacher. Emphasis on observation of signs and symptoms and taking part in making nursing judgments in team conference.

Psychology

PSY 1101 **Human Relations**

This course is designed to prepare the student to handle human relationships effectively on the job and thus meet management's expectations of individual and group productivity.

Welding

WLD 1101 **Basic Gas Welding**

Welding demonstrations by the instructor and practice by students in the welding shop. Safe and correct methods of assembling and operating the welding equipment. Practice time will be given for carbon steel welding, bronze welding, silver soldering, and flame-cutting methods applicable to mechanical repair work.
Prerequisite: None.

WLD 1122 **Commercial and Industrial Practices**

Designed to perfect through practice skills as in simulated industrial processes and techniques; sketching and layout on paper the size and shape description, listing the procedure steps necessary to build the product, and then actually following these directions to build the product. Emphasis is placed on maintenance, repairing worn or broken parts by special welding applications, field welding and non-destructive tests and inspection.
Prerequisites: WLD 1141, WLD 1142.

WLD 1123(a) **Inert Gas Welding**

Introduction and study of the five basic welds using inert gas on non-ferrous and ferrous metals.
Prerequisites: WLD 1141, WLD 1142.

WLD 1123(b) **Inert Gas Welding**

Perfecting the tig process of welding for certification on non-ferrous and ferrous metals.
Prerequisites: WLD 1141, WLD 1142, WLD 1123(a).

WLD 1123(c) **Inert Gas Welding**

Learning manual control and operation of the tig welding process on non-ferrous and ferrous metals.
Prerequisites: WLD 1141, WLD 1142, WLD 1123(b).

WLD 1124 **Pipe Welding**

Designed to provide practice in the welding of pressure piping in the 2G through 6G fixed position using shielded metal arc welding processes according to sections VIII and IX of the ASME code.
Prerequisites: WLD 1141, WLD 1142.

WLD 1125 **Certification Practices**

This course involves practice in welding the various materials to meet certification standards. The student's work undergoes various tests including the guided bend and the tensil strength tests and nic-break tests to check the quality of his work. Emphasis is placed on attaining sufficient skill to meet testing laboratory requirements for certification.
Prerequisites: WLD 1141, WLD 1142, WLD 1124.

WLD 1126 **CONTINUATION OF WLD 1125.**

WLD 1141 Beginning Welding

Introduction to the principles and history of oxyacetylene welding and cutting, the nomenclature of the equipment, assembly of the unit, preparation of metals, types of joints, welding procedures and testing of the weld. Welding procedures are mastered and greater understanding and developing of the skills occurs. Safety procedures are heavily stressed throughout this program of instruction.

WLD 1142 Intermediate Welding

The operation of various AC transformers and AC-DC rectifiers and DC motor generator arc welding machines. Studies are made of proper heat ranges for various metal thickness, polarities, and electrodes for use in joining various metal alloys by the same process. After student is capable of running beads, tests are given. This is done so that the student may detect his own weaknesses in welding. Safety procedures are emphasized throughout the course in preparation for certification. Prerequisite: WLD 1141.

Adult and Continuing Education

Special Programs
Adult Basic Education

Adult Basic Education is a program with one major purpose — to assist adults who wish to improve their skills in oral and written communication, arithemetic, basic science, and social studies. Classes meet two nights weekly in the local communities where there is a sufficient number of interested adults.

No registration fee is required and materials are provided by the Institute. All materials used have been especially prepared with emphasis on individual needs and interests.

Classes are organized in the following levels:

LEVEL I — Grades 1-4

The basic fundamentals of reading, writing, and arithmetic are stressed in Level I. The course is designed to bring adults to a functional level whereby individual study is possible. Some basic science and social studies are introduced at this level.

LEVEL II — Grades 5-8

Additional development of the fundamental skills is stressed. The student learns to work individually and independently. Science and social studies are included in the curriculum at this level. Each student is encouraged to master the fundamental skills. With the completion of Level II the adult should be equipped to go into the high school program.

HIGH SCHOOL EQUIVALENCY

The High School Equivalency courses are being offered through the Continuing Education Department. There is a $2 registration fee for each course taught, with the exception of training for volunteer firemen, police personnel, and prison inmates.

The adult high school courses are designed for adults. These courses are available for those who are interested in receiving their High School Equivalency Certificate. The students are placed in the learning environment according to the results of preliminary testing. When scores indicate that the required achievement level has been attained, students are then eligible to receive the High School Equivalency Certificate. These courses are available in Northampton, Bertie, Hertford and Gates Counties.

Continuing Education Division

Academic, Technical, Vocational and Recreational Courses

The academic, technical, vocational, and recreational courses offered by the Institute enable the adult to further develop an area of his interests.

Any adult, 18 years of age or older who is not enrolled in public school is eligible to enroll.

There is a $2 registration fee for each extension course, with the exception of training for volunteer firemen and police departments.

Courses offered vary each quarter according to interest and demand. The courses listed are some that have been taught in the past and some we plan to offer in the immediate future. Others may be offered upon request.

Decoupage
Pocketbook Making
Choral Music
Crocheting
Crewel Embroidery
Powder Puff Mechanics
Millinery
Tailoring
Drapery Making
Bedspread Making
Rug Making
Driver Education
Brickmasonry
Auto Electrical
System and Tune-Up
Speed Reading
Carpentry
Upholstery
Flower Arranging
Interior Decorating
Knitting
Cabinetmaking
Pilot's Ground Course
Air Conditioning
Electric Motor Repair
Income Tax Reporting
Refinishing
Ceramics
Home Sewing
Photography

Training Services To Business and Industry

The vocational extension classes conducted by Roanoke-Chowan Technical Institute are developed to fit the needs of industry and business and to provide training desired by employed individuals of the area. Because of the flexibility of these programs, courses are tailored to specific group needs.

New programs are initiated as the need is indicated by surveys, interviews and upon request. Some examples of courses offered are:

Blueprint Reading
Mathematics for Machinists
Automotive Electrical Systems
Basic Electricity
Residential Wiring

Industry is invited to make their needs known to the Director of the Continuing Education Division.

Fire Service Training

In order to maintain a good fire fighting department we must have continuous up-grading of fire fighting personnel. Courses to train fire service personnel in the latest techniques and methods of fire fighting are provided through the Continuing Education Division of the Institute. The Fire Service Training program provides training sessions in local fire departments. This allows the men to be trained as an organized group utilizing equipment that would ordinarily be used in controlling fires.

Fire Service classes include the following areas of study:

Forcible Entry
Rope Practices
Portable Fire Extinguishers
Ladder Practices
Salvage and Overhaul Practices
Fire Stream Practices
Fire Apparatus Practices
Ventilation
Rescue Practices
Protective Breathing Equipment
Firefighting Procedures

Hospitality and Tourism Education

The hospitality industry is the third largest industry in North Carolina and affords many opportunities to the people of this state. Hospitality training is provided for personnel in the motel, restaurant, service station, hospital, and retail businesses. Some of the subject areas covered are:

Human Relations
Communication
Sales Promotion
Hotel-Motel Law
Economics
Food and Beverage
Management and Service
Purchasing
Attendant Training
Food and Beverage Controls
Supervisory Housekeeping
Maintenance and Engineering
Accounting
Front Office Procedure
Housekeeping Training
Waiter-Waitress Training
Service Station

Management Development Training

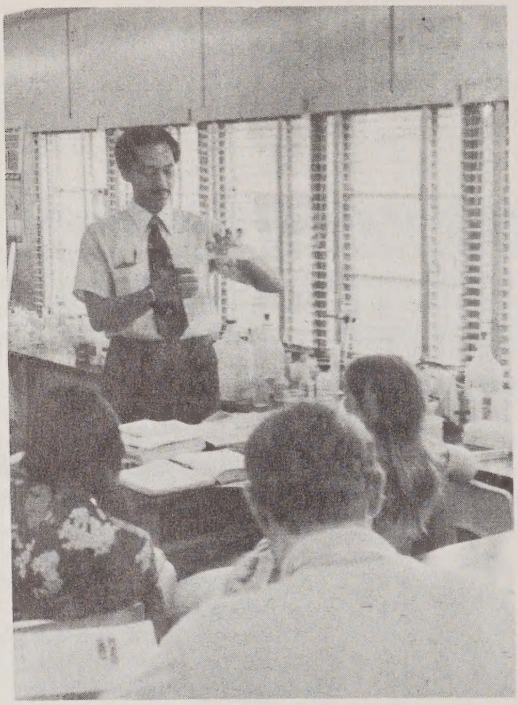
The management development program has been designed to provide instruction for supervisors at various levels of management to prepare them for advancement.

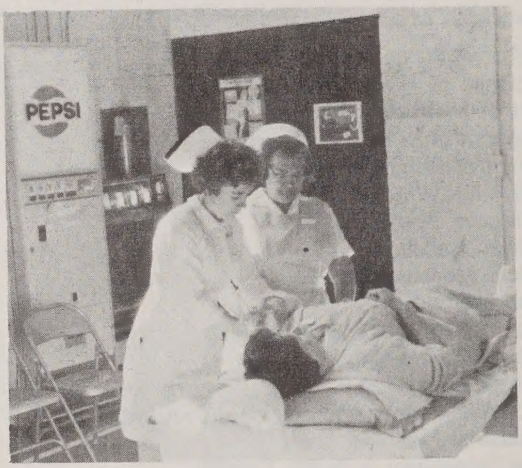
Classes available to supervisory personnel are:

Principles of Supervision
Job Relations Training
Science of Human Relations
Art of Motivating People
Economics in Business and Industry
Effective Communications
Effective Writing
Effective Speaking
Speed Reading
Work Measurement
Job Methods
Conference Leadership Training
Instructor Training
Creative Thinking
Industrial Safety and Accident Prevention
Industrial First Aid
The Supervisor in North Carolina
Job Analysis Training
Management Primer
Cost Accounting for Supervisors
Supervision in Hospitals

New Industry Training

The creation of more jobs and better paying jobs in North Carolina by promoting the expansion of existing industries and by attracting new industries to the state was a major consideration in the original establishment of the industrial education centers. The Department of Community Colleges, working with the local institution will develop and fund legitimate training programs, tailor-made for each industry, to meet the immediate trained manpower needs when the plant, new or expanded, is ready to go into production. In the process of doing this, we will help the plant management develop a longrange training program of its own to meet those replacement and retraining needs that industry should and can be prepared to do for itself.

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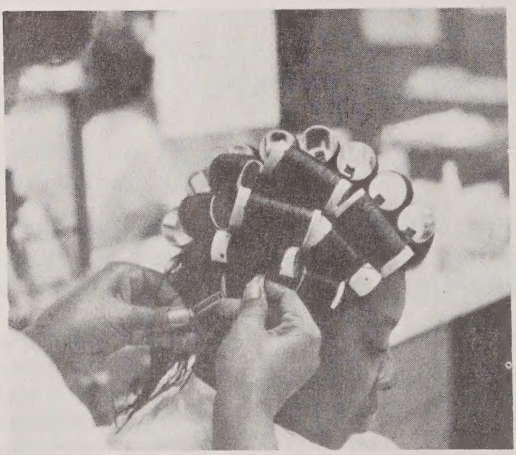

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